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Immigration, Trade, and Factor-Price Equalization

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THE WELL-KNOWN factor-price-equalization theorem explains how free trade could conceivably make not only each commodity but also each factor of production have the same price at home as abroad. Factor mobility would be unnecessary. The necessary conditions relate to pure competition, costless transport, internationally identical constant-returns-to-scale production functions, incomplete specialization, substitutability among factors, fewness of factors, and so forth. If, under the specified conditions, factor prices were not equal at home and abroad, then commodity costs and prices could not be equal. But free competition and cost-free transport would ensure international equality of commodity prices and costs. Hence factor prices could not differ among countries.[1]

Trade and movements of productive factors can thus apparently have similar effects. According to Samuelson, "the gist of [the] discussion has been to show that relatively free commodity trade is a better substitute for mobility of factors of production than was hitherto thought to be the case."[2] Of particular interest is the suggested similarity between trade and the migration of labor. In Samuelson's model, "free trade has had the same harmful effects upon the vested interests of the whole laboring class in America (and land-owning class in Europe) as would the removal of all immigration barriers."[3] Among reasons for the differences in wages from country to country in the real world, Samuelson lists natural and man-made obstacles to trade.[4] According to Haberler, the factor-price-equalization theorem does seem to im-

[1] Cf. James E. Meade, *Problems of Economic Union* (Chicago: University of Chicago Press, 1953), Chapter 3, especially pp. 61-72; James E. Meade, *Trade and Welfare* (London: Oxford University Press, 1955), Chapter 20, especially p. 332; Abba P. Lerner, "Factor Prices and International Trade," written in 1933 and reprinted in his *Essays in Economic Analysis* (London: Macmillan, 1953), pp. 67-84; Gottfried Haberler, *A Survey of International Trade Theory* (Princeton: Princeton University, Department of Economics and Sociology, International Finance Section, 1955), pp. 19-20; and the articles by Paul A. Samuelson cited below.

[2] Paul A. Samuelson, "International Trade and the Equalisation of Factor Prices," *Economic Journal*, Vol. 58 (June, 1948), p. 183.

[3] *Ibid.*, p. 176.

[4] "International Factor-Price Equalisation Once Again," *Economic Journal*, Vol. 59 (June, 1949), pp. 196-97.

ply that under its assumptions, "free trade would be a complete and not merely a partial substitute for free international mobility of labor. This is a conclusion that seems to contradict traditional views on this problem."[5]

The similarity between trade and migration seems to pose a dilemma: (1) As shown by the classical analysis, trade raises a country's standard of living.[6] (2) Immigration worsens the standard of living of a country whose population has reached or passed its "optimum" — the level at which real income per person is highest. (3) Yet trade, in tending to equalize wages at home and abroad, resembles immigration. May there not be something, after all, to the cheap-foreign-labor argument for tariffs? If goods made by poorly paid foreigners flood a country's market, what difference does it make whether those foreigners have immigrated or are still living and working in their home countries? The equalization theorem, depending as it does on certain similarities of conditions in the various countries, poses a further puzzle by seeming to imply that how trade affects a country depends in part on just *why* the foreign and domestic pre-trade price structures are different. Yet standard demonstrations of the gain from trade need not probe into just why some things are cheaper abroad than at home.

Some writers try to banish these disturbing apparent implications of factor-price equalization by stressing the extreme unreality of the theorem's assumptions.[7] For example, the assumed identity of production functions in the various countries implies identical productive "atmospheres" — physical climates, social and political institutions, psychological attitudes, and so forth.[8] Yet it remains disturbing that conditions are even conceivable in which the classical conclusions about the gain from trade seem to fail. It is therefore worth while to consider the equalization theorem on its own grounds and see precisely what it does imply about the similarity of imports and immigration.

Differences Between Trade and Migration

Trade and migration may be similar in promoting international equalization of factor prices but not of average real incomes per person — and this is the key point. Equalization of wage rates is not equalization of average output or income per person. Whatever *immigration* might do to wage rates in a relatively fortunate country, *trade* would not lower per capita real incomes.[9]

This distinction may be clarified by

[5] *Op. cit.*, p. 19.

[6] See footnote 10 below.

[7] Haberler, *op. cit.*, p. 20; S. F. James and I. F. Pearce, "The Factor-Price Equalisation Myth," *Review of Economic Studies*, Vol. 19 (2), (1951-52), pp. 111-20.

[8] Meade, *Trade and Welfare*, pp. 348-51.

[9] Samuelson recognizes this fact by his statement (*Economic Journal*, June, 1948, p. 170 and footnote) that the deterioration through trade in the real income of a previously scarce factor could theoretically be compensated out of the gains of other factors. In the light of this statement, it is clear that the statements by Samuelson on the similarity between trade and migration are not wrong but only unduly susceptible to misinterpretation.

seeing how immigration does tend to lower per capita production. It worsens the ratio of labor to natural resources and other nonlabor factors, making total output rise less than in proportion to population. This conclusion presupposes that the country was not initially underpopulated in the sense that an increase in population could have raised real income per person through economies of larger-scale production; and under the factor-price-equalization assumption of constant returns to scale, such underpopulation could not have existed. The conclusion further presupposes that the labor force is at least roughly proportionate to population. Of course, if the native population consisted mainly of invalids, while most of the immigrants were able-bodied workers, then immigration would probably raise rather than lower per capita real income. A still further presupposition is that in computation of average real income per person, an immigrant counts no more and no less as a person than does a member of the native population.

Trade, in contrast, increases a country's total real income without increasing the number of persons sharing it. This is the essential difference between trade and immigration. There is, of course, some ambiguity in the notion of a country's total real income. Yet "an increase in total real income" is the traditional and almost indispensable shorthand description of the gain from trade.[10] Trade enhances rather than lessens the good fortune of a country with an especially great abundance of natural resources, capital, and entrepreneurial ability in relation to population. International equalization of factor prices in no way implies equalization of relative factor quantities or of the average per person of the total income earned by all of the various factors.

Immigration Benefits to the Natives

The difference between trade and ordinary immigration can be made still clearer by envisaging conditions under which immigration of foreign laborers would resemble trade in raising the standard of living of the native population. This would happen if the pay of immigrants were somehow limited according to the marginal productivity of their labor — that is, if they were kept from receiving any nonlabor income.[11] Let ΔL = the increase in the labor force due to immigration, ΔY = the resulting increase in total real national income, and $\frac{dY}{dL}$ = the marginal productivity of labor at the increased size of the labor force resulting from immigration. The additional real income

[10] The essential meaning is that trade enables a country as a whole to *afford* more than before of every commodity and to *afford* to make every inhabitant economically better off than before, even though neither of these things in fact happens. How trade can provide such a gain has been stated perhaps most simply by Frank H. Knight: ". . . the production of one good to exchange for another is an *alternative method of producing* the second commodity. Under competitive conditions, productive resources will not be used in this indirect process of production unless the yield is greater than that obtained by the use of the direct method." *The Ethics of Competition* (New York: Kelley, 1951), p. 234.

[11] Abba P. Lerner, *The Economics of Control* (New York: Macmillan, 1947), pp. 364-65. Hiring of migratory workers while not allowing them the rights of residents might be an example.

available to the native population will equal the amount that the immigrants add to total production less the amount they receive in wages, or, in symbols,

$$\Delta Y - \frac{dY}{dL}\Delta L = \Delta L\left(\frac{\Delta Y}{\Delta L} - \frac{dY}{dL}\right).$$

Now, $\frac{dY}{dL}$ will be less than $\frac{\Delta Y}{\Delta L}$ by the law of diminishing returns. (The constant-returns-to-scale assumption of the factor-price-equalization theorem assures that the marginal productivity of labor will be in the diminishing stage.) Thus the expression in parentheses above will be positive, meaning that immigration under the assumed conditions has made a positive amount of additional real income available to the natives.

None of this means that immigration will raise the labor incomes of the native workers; in fact, the competition of immigrants will beat down wage rates. However, the natives, in their roles as landowners, capitalists, and entrepreneurs, will enjoy a more than offsetting increase in their incomes; and even if the native laborers form an economic class distinctly separate from the receivers of rent, interest, and profit, they could in principle be made better off or no worse off than before by a scheme of redistributive taxes and transfer payments.

Immigration, it must be repeated, raises the average standard of living of the native population only when the immigrants are discriminated against: they must not be allowed to collect any nonlabor income, not even in the form of redistributive transfer payments or public services.

The foregoing argument presupposes, it should be remembered, that the immigrants are propertyless laborers. If they were capitalists instead and received as income only the marginal productivity of their capital, the previous argument would hold true *mutatis mutandis;* total real income left over for distribution among the native population would still increase. Furthermore, this conclusion would still hold true even if some of the immigrants were purely laborers and others purely capitalists, and also if each immigrant were both a laborer and a capitalist. The essential condition for an increase in the total real income left over for the native population is that the immigrants receive no income except in accordance with the marginal productivity of whatever factors of production they themselves provide.[12] An aggregate gain for the native population in no way implies, of course, a rise in the per capita real income of the *total* population; for under the assumed conditions, the average income of immigrant laborers as such would be below the pre-immigration average for the natives and so would pull down the over-all average. (But if the immigrants were sufficiently wealthy capitalists, their incomes could conceivably pull up the per capita in-

[12] The author is indebted to Professor Hans J. Brems of the University of Illinois for calling these matters to his attention.

It follows, incidentally, that the native population as a whole still would gain in comparison with the situation without immigrants even if the immigrants were allowed to save out of their wages and earn interest on the capital so created. The essential point, as emphasized in the text, is that the immigrants receive no economic benefits other than in accordance with the marginal productivity of their own factors.

come of the native-plus-immigrant population.)

Despite the analytical symmetry between immigrant labor and immigrant capital, considerations of expository simplicity and of special concern for the fate of human beings suggest continuing the discussion on the specific assumption that the immigrants are exclusively laborers (and their families). To assure a gain for the native population, these immigrant laborers must be debarred from nonwage benefits such as redistributive transfer payments and government services, charity, gifts, and inheritances received from natives. How important a restriction this is can be grasped by recalling all the many ways in the real world in which individuals enjoy benefits not paid for by the productivity of their own factors of production. In practice, the thoroughgoing discrimination envisaged here could not be enforced. The need to perpetuate the discrimination against immigrants and their descendants, generation after generation, would be only one of the difficulties. (And what would be done about the children of mixed marriages, or would intermarriage between immigrants and natives be forbidden?) Finally, a caste system would be distasteful, and not merely because of the detailed control over people's private lives necessary for its enforcement.

Trade and Discrimination

Now one sees the essential difference between importing foreigners and importing foreign goods; one sees how it matters whether a country's citizens consume goods made by immigrant foreigners or goods made by foreigners still living and working in their own countries. Foreign trade promotes efficient use of productive factors but, unlike immigration, does not pose the choice between sharing with immigrants the benefits of a country's abundance of nonlabor productive factors and discriminating against immigrants and their descendants in a distasteful and administratively unworkable manner. To import the products of foreigners rather than the foreigners themselves provides an easy and conscience-soothing way to discriminate against foreigners by simply keeping them at a distance.[13] In brief, a country's unwillingness or inability to embark on the discrimination against immigrants necessary to keep immigration from lowering the average per capita incomes of the native population explains the difference between buying the work of ex-foreigners embodied *at home* in products and the work of foreigners embodied *abroad* in products.

Income Distribution

Trade is not, then, similar to ordinary immigration in its effects on a country's average standard of living. The similarity demonstrated by the factor-price-equalization theorem is a matter of income *distribution:* imports of goods made by cheap foreign labor

[13] This statement is meant as neither praise nor criticism of immigration barriers. Economic arguments are not the decisive ones. There is, incidentally, a familiar argument from the world as well as the national standpoint for restricting immigration from countries with such Malthusian conditions that emigration, while not alleviating the population problem at home, would serve only to spread the problem to other countries.

can, like immigration, conceivably change the distribution of income in a country to the disadvantage of native laborers. Whatever policy implications the equalization theorem may hold, they simply generalize those of the Stolper-Samuelson income-distribution theorem.[14] In policy discussions, of course, all the familiar reminders become relevant about the highly special and unreal conditions assumed by the factor-price-equalization and Stolper-Samuelson theorems.

It is a commonplace observation that international trade and technological progress provide the same sort of benefit — a more efficient use of resources. Even with regard to effects on income distribution, trade is similar to inventions. A. C. Pigou points out that an invention will have "harmonious" effects in the sense of benefiting labor as well as increasing total real income — unless, as is conceivable, the invention so changes the parts played by capital and labor in production as to make labor less valuable relative to capital than before and even to diminish labor's absolute share.

It is interesting to observe that exactly the same analysis is appropriate when the initiating cause is, not an invention in the ordinary sense, but a development which enables a country to obtain some commodity more cheaply than before by making something else with which to purchase it from elsewhere, instead of making the commodity itself. Here too more of what people want is made available; and here too the proportionate parts played by labour and capital in production may be changed.[15]

Either inventions or trade may conceivably so reduce the demand for labor relative to the demand for other productive factors that the absolute level of real wages will fall. On the other hand, there will be a more than equivalent rise in nonlabor incomes; and if these increased incomes provide increased saving and capital accumulation, then the relative scarcity, the marginal productivity, and the real income of labor will in time presumably increase.[16] This is one reason (in addition to others not directly related to the present analysis) for doubting that protectionism — against inventions or against trade — is likely to benefit labor under real-world conditions. To quote Pigou again,

The great majority of inventions and improvements will increase the real income of labour as well as the aggregate national dividend. Disharmony, as a result of inventions, is a possible, but a decidedly improbable, contingency. Nobody would seriously propose to interfere with, or to obstruct, inventions in order to provide a safeguard against it.[17]

Nothing in the factor-price-equalization theorem, correctly understood, demolishes Pigou's conclusions as applied to the effects of international trade.

[14] Wolfgang F. Stolper and Paul A. Samuelson, "Protection and Real Wages," *Review of Economic Studies*, Vol. 9 (November, 1941), reprinted in *Readings in the Theory of International Trade* (Philadelphia: Blakiston, 1949). The authors themselves point out the restrictiveness of the assumptions on which they reach the conclusion that free trade will lower the real income of the previously scarce factor of production; see especially pp. 354-56 in the *Readings*.

[15] A. C. Pigou, *The Economics of Welfare* (4th ed.; London: Macmillan, 1950), pp. 671-72.

[16] Cf. *Ibid.*, p. 679.

[17] *Ibid.*, p. 680.

Government Intervention in Railroad Labor Disputes

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THE Railway Labor Act, as amended, is concerned with five basic aspects of labor relations in the railroad industry. They include (1) the prevention of unfair labor practices on the part of employers; (2) the resolution of representation disputes; (3) the negotiation of union shop clauses; (4) the settlement of disputes arising out of *changes* in collective bargaining agreements, with respect to wages and working conditions; and (5) the settlement of disputes arising out of the *interpretation and application* of the collective bargaining agreements.

Although the last two aspects are the main concern of this paper, a few comments on the first three might be in order.

Unfair Labor Practices

Under the law a carrier is subject to fine and imprisonment if it willfully violates certain guarantees offered to employees and their representatives. Such unfair labor practices include (1) interference, influence, or coercion in the designation of employee representatives; (2) denial of rights of employees to join, organize, or assist in organizing labor organizations; (3) interference in the establishment of a labor organization (company-union section); (4) yellow-dog contracts; (5) changing wages and working conditions contrary to procedures under the law; and (6) handling a dispute in a manner different from that spelled out in the act.

Violations of any of these provisions are handled, at the request of a labor organization, through the Attorney-General of the United States. Violations have been few in number and represent a very small part of the collective bargaining relationships in the railroad industry. This experience is in sharp contrast with that of the Taft-Hartley Act.[1]

Representation Disputes

The representation proceedings under the law are handled by the National Mediation Board, which consists of

[1] Herbert R. Northrup, "Unfair Labor Practice Prevention Under the Railway Labor Act," *Industrial and Labor Relations Review,* Vol. 3 (April, 1950), p. 323.

three members appointed by the President of the United States. In this area, too, the issues are not serious. The basic problem facing the board is the handling of representation cases involving one union seeking to take the rights of representation away from another union.[2]

Union Shop Provisions

The union shop provisions of the Railway Labor Act permit railroad labor organizations to negotiate union shop clauses, notwithstanding the existence of state laws to the contrary. In this respect, the railroad labor organizations are not affected by state "right-to-work" laws.

Another unique provision of the Railway Labor Act is that it permits an operating worker to hold membership in an alternative union, provided the alternative union admits to its membership workers of the same craft.

In general, neither unfair labor practice cases, nor the representation proceedings, nor the union shop provisions create any serious problems in the railroad industry. The two serious problems in the railroad industry are the handling of contract disputes and disputes over the interpretation of contracts.

Types of Governmental Intervention

At the outset three types of governmental intervention in labor relations should be distinguished. (1) The government can intervene for the purpose of laying down the rules of the game; the present Taft-Hartley Law (for the most part) and the old National Labor Relations Act represent this type of intervention. (2) The government can set forth the procedures which must be followed in the resolution of collective bargaining disputes. This is illustrated in the so-called emergency provisions of the Taft-Hartley Law and the provisions of the Railway Labor Act which are concerned with the resolution of disputes arising out of contract changes and the interpretations of contracts. (3) The authority of government — either through the courts or through the Executive Branch — can be used to resolve collective bargaining disputes. One might refer to this type of intervention as "extra-legal," though with no intention of implying anything illegal.

With respect to the operations of the Railway Labor Act, we have had all three types of government intervention although the "extra-legal" type of intervention has become less significant in the past few years.

It has already been mentioned that the unfair labor practice, representation, and union shop provisions of the Railway Labor Act as amended have created very few problems and it can be said that, in general, intervention of this nature has proceeded satisfactorily. It has been the failure of the second type of intervention—the establishment of procedures for the resolution of conflicts over contract and grievance disputes — which has led in the past to the "extra-legal" type of intervention.

Grievance Disputes

What are the procedures for the reso-

[2] Jacob J. Kaufman, "Representation in the Railroad Industry," *Labor Law Journal*, Vol. 6 (July, 1955), p. 437.

lution of contract interpretation disputes? Under the law, either party *may* submit such a dispute — similar to a grievance dispute — to the National Railroad Adjustment Board. The law requires that the grievance be processed "on the property" between the labor and railroad officials, but on many railroads limited negotiations take place with respect to this type of dispute.

The National Railroad Adjustment Board is a bipartisan board made up of equal representation from the carriers and the unions and the members are paid by their respective organizations. If and when the parties disagree — as they frequently do on the important issues — the case is decided by a referee, usually appointed by the National Mediation Board. Incidentally, there is some amount of "blackballing" of referees by both parties.

It has been pointed out elsewhere that by any reasonable standards it can be stated unequivocally that the procedures for the resolution of contract interpretation disputes have failed.[3] (1) The parties disagree as to the purpose of the board — the carriers say that the board should act like a court of equity, whereas the unions say that it is nothing more than a continuation of collective bargaining by both parties. (2) The procedures are utilized frequently, whereas a good grievance procedure results in the resolution of disputes at the lower levels. The fact is that the offices of the board are clogged with cases, and the backlog would take several years to clean up. (3) A good grievance procedure should allow for speedy disposition of the issues. Considerable delay is found in the railroad industry. (4) The parties have not fully accepted the procedures under the law, as illustrated by the fact that the carriers frequently force the union to seek enforcement of the board's award elsewhere — in the courts or (in many instances) through strike action. (5) There is unilateral coercion on the part of the parties. This is not good grievance policy. And (6) there is no fair, impartial consideration of the issues by the parties (given the make-up of the board) until a referee is appointed. And in these cases a lack of technical knowledge on the part of referees is a serious handicap.

Why have the grievance procedures failed in their purpose? The symptoms mentioned above reflect certain basic causes in the railroad industry.

On the one hand the railroad industry is beset with financial difficulties. Without going into detail one can point to the increasing competition it faces from other types of transportation. There is not only the fact that more goods and passengers are carried by other forms of transportation, but also the fact that competitors of the railroads are getting the financially better goods and passengers. In addition, the railroads have been beset with their own entanglements in the rate-making procedures of the Interstate Commerce Commission. In periods of prosperity — that is, when the amount of traffic is high — the railroads do not have an opportunity to raise their rates because the ICC has been reluctant to allow

[3] Jacob J. Kaufman, "Grievance Procedures Under the Railway Labor Act," *Southern Economic Journal,* Vol. 19 (July, 1952), p. 66.

them increases. In periods of contraction competition hits the railroads hard and rate increases are out of the question. Finally, the railroads are handicapped in consolidating their facilities both by the procedures required under the Interstate Commerce Act and by the position of the railroad labor organizations on consolidations.[4]

On the other hand the labor organizations are faced with the problem of a long-run decline in railroad employment. The unions are concerned not only with the employment effects as such but also with the effect of this decline in railroad employment on the union as an institution. One cannot minimize the latter consideration. In an attempt to offset this decline in employment (and this is only one reason) the unions have established over the years an elaborate, complex set of working rules governing all aspects of work. Now, working rules are necessary in order to avoid arbitrary and discriminatory actions of management, but they have had the effect of slowing up the rate of decline in employment.[5]

Thus, we have a basic conflict. The railroads seek an improvement in their financial position by reductions in costs while the workers seek to maintain their employment and their rights. The railroads in the past years have followed two main lines of attack: first, they have spent large sums of money for the dieselization and mechanization of the railroads. These technological improvements have borne fruit in terms of cost reductions. The second approach has been to break down the working rules which they argue result in unjustified wage expenditures. This latter approach will become more serious in the future because the important railroads have completed their improvements and now will probably seek to gain all the fruits of the investment.[6]

The labor unions face, as pointed out, prospects of unemployment. But there are other elements in the picture. There is no other labor group in the country which is more "security" conscious than the railroad workers. The most important consideration is "seniority," a principle which is embedded in the labor practices of the railroad industry. In addition, the railroad workers are extremely "grievance" conscious. They will seek penalty payments for violations of working rules at every opportunity.[7]

What are these working rules which, the railroads allege, hamper their operations and increase their costs? They cannot be explained in any great detail, since a single agreement covering one craft may consist of 100 to 200 pages. The rules cover all aspects of railroad operations.

However, a few of the more impor-

[4] Charles L. Dearing and Wilford Owen, *National Transportation Policy* (Washington: Brookings Institution, 1949), *passim.*

[5] Jacob J. Kaufman, "Working Rules in the Railroad Industry," *Labor Law Journal,* Vol. 5 (December, 1954), p. 819.

[6] See Report of the Royal Commission on Employment of Firemen on Diesel Locomotives in Freight and Yard Service on the Canadian Pacific Railway, 1958, in which recommendations were made for the eventual elimination of firemen on diesels in freight and yard service.

[7] See *Report of the Eight-Hour Commission* (Washington: U. S. Government Printing Office, 1918), especially the special report of William Z. Ripley on "Railway Wage Schedules and Agreements," for an understanding of the background of these rules.

tant rules — important in the sense that they have recently brought about a great deal of controversy — will be described.

One rule which held up the settlement of the 1950-52 dispute was the so-called interdivisional run rule. The typical work day for a passenger engineer or fireman is five hours or 100 miles. In freight traffic it is eight hours or 100 miles. This means that if a trip covers about 100 miles in less than the five or eight hours, a day's work has been completed. The railroads apparently had originally set up divisional points about 100 miles apart for such purposes as changing crews, inspecting equipment, and repairing equipment. In order to obtain a full day's work (from the railroad's point of view, this means about eight hours) the railroads are now seeking to set up a system which would permit them to run a train through, say, two divisions. The increased speed of trains would allow for this within the specified period. The reduction in costs would be substantial, particularly when one considers that maintenance of diesels is much less than that of steam engines. The labor organizations have steadfastly resisted any change in this rule. They are reluctant to bargain on it and they will not submit the question to arbitration. The impact of a change in the rule — aside from possible employment effects — on the existence of communities which have been built up around these divisional points would be extremely serious.[8]

Another rule — resulting from the craft consciousness of the railroad unions — is that roadmen cannot perform yard work and vice versa, except under certain unusual circumstances. Thus, the railroads are prevented from using roadmen who have completed their runs in less than eight hours to perform yard work for the remaining hours. Here too there is a possibility for savings. But the unions have their jobs as well as their unions — as institutions — to protect.

Another rule — which was relaxed somewhat by arbitration — is the so-called "more than one class of service rule." This rule requires that when a worker performs another class of service while performing his regular service, under some circumstances, he shall receive double pay. The rule has been relaxed somewhat so that under some circumstances the worker receives only the higher rate of pay.

Incidentally, the relaxation of this rule by an arbitrator simply makes further rule adjustments more difficult because the unions will not submit their rules to arbitration for fear of losing their advantage.

Essentially, one can say that these rules stem from the craft consciousness of the labor organizations, a great concern about loss of jobs and job opportunities, a historical bitterness toward management, and the unending conflict among unions which seek to obtain members from rival organizations and which seek ways and means of getting

[8] See W. F. Cottrell, "Death by Dieselization: A Case Study in the Reaction to Technological Change," *American Sociological Review*, Vol. 16 (June, 1951), p. 358, for an excellent discussion of the effect on a community of the elimination of a division point.

more for their craft in an attempt to wean workers away from other groups.

As a result of this conflict of interests between the railroads and the workers (and their unions), there is a continuous stream of grievances (in the form of claims for extra payment), with little negotiating over them. Thus a large number of grievances wind up before the National Railroad Adjustment Board. And why should the railroads settle across the table? Delay costs them little and there is always an opportunity that they can get a favorable ruling from a referee and lay the basis for reducing future payments. Even if the referee's decision is unfavorable why abide by the ruling? Why not force the unions to seek enforcement in the courts with the possibility that the courts will reverse the decision?

The unions, beset with delays and possible court costs, seek an alternative means for the solution of grievance disputes via strike action. There have been important grievance strikes on the railroads in past years, but the right to strike over grievances has been curtailed recently.[9]

It can be seen that the intervention of the government in the solution of grievance disputes has failed. Nor can the defects be remedied by changing the law. The issue is deeper and any improvement must come from the resolution of the basic conflict between the parties themselves.

Contract Disputes

What are the procedures for the settlement of disputes arising out of contract changes? How effective have they been?

Under the Railway Labor Act, either party can initiate proposed changes in the collective bargaining agreement. Incidentally, the contracts in the railroad industry do not have an expiration date. The provisions of the contract continue in effect until the procedures under the law are invoked and followed through. The notice for changes usually asks that the proposed changes go into effect in thirty days. Within ten days after receipt of the notice, a conference date must be set and such conference must be held within thirty days after the notice has been given.

The conference is designed to discuss the proposals. If no agreement is forthcoming the conference breaks off. Within ten days after the breaking off either party can invoke the services of the National Mediation Board, or the National Mediation Board can proffer its services to the parties. Such action prevents any changes in the existing contract. Presumably if neither party invokes the services of the National Mediation Board and if the board does not offer its services, the union is free to strike. If the proposals are initiated by the railroad, the railroad is free to put into effect its proposals and, in effect, lock out the workers if they refuse to work under such conditions. This latter type of action has seldom taken place.

If the National Mediation Board fails to mediate the dispute, it is required under the law to "induce" the parties to submit the dispute to arbitra-

[9] Jacob J. Kaufman, "Grievance Arbitration in the Railroad Industry," *Labor Law Journal,* Vol. 9 (March, 1958), p. 244.

tion. If arbitration is rejected by either or both parties, the National Mediation Board releases the parties and either side is then free to act.

However, if the National Mediation Board thinks that any action or possible action of either party might seriously interrupt transportation service, it can certify the dispute to the President of the United States who may, at his discretion, appoint an emergency board to hear the dispute. The law requires that this board issue its report within thirty days after its appointment and that no action be taken by any party until thirty days have elapsed after the issuance of the board's report. This ends the procedure. There is no mention in the law of what happens thereafter.[10]

The *typical* pattern of procedure in recent years has been as follows: after the unions notify the carriers of their proposals for changes in wages and working conditions, the carriers in turn submit counterproposals designed to eliminate the important working rules. At the initial conference between each carrier and the union representative, each side simply rejects the proposals of the other. The unions then ask the management to join with other companies in a carrier conference committee — of which there are three, one each for the Eastern, Western, and Southeastern railroads. Considerable delay usually ensues in the establishment of such committees.

After such conference committees are established, the parties meet and with rare exception there is no collective bargaining. Either side then invokes the services of the National Mediation Board, which attempts to get the parties to resolve their differences, but usually to no avail. Thereupon the unions threaten to strike (by setting a strike date). The National Mediation Board then certifies the case to the President, who in turn sets up an emergency board. After prolonged hearings, the report of the board is issued.[11]

With the issuance of the report the procedures presumably end, according to the Railway Labor Act, except that neither side can act for thirty days after the issuance of the emergency board's report. But until 1952 usually the threat of a strike or an actual strike brought into play certain "extra-legal" procedures. Railroads were seized, injunctions were issued, and the dispute went to the White House. And then there was long delay before final settlement.

Since 1952, with the repeal of a 1916 law which was the primary basis of the seizures and with the nonintervention approach of the present Administration, there have been no seizures. However, the opportunities for seizures have not arisen. Does this mean that collective bargaining has returned to the railroad industry?

The increase in the number of settle-

[10] The popular notion that the law was a model prior to World War II fails to take into account that until the 1934 amendments to the Railway Labor Act the law was ineffectual and that during the 1930's economic conditions were not conducive to militant collective bargaining.

[11] In most recent cases the unions have rejected the board's recommendations whereas the carriers have accepted.

ments "across the table" in recent years reflects two basic factors. First, the unions are anxious to prevent emergency board consideration of the carriers' proposals to change the working rules. Secondly, with the "pattern" approach of emergency boards which has developed over the years, the unions have realized how fruitless it is to attempt to break the "pattern," once it has been set in one agreement.

There has been little genuine collective bargaining in the railroad industry over the years. One basic factor has been the very existence of the Railway Labor Act itself. It is generally agreed that procedures established to meet the eventuality of a collapse in collective bargaining usually become the substitute for collective bargaining.[12]

[12] Jacob J. Kaufman, *Collective Bargaining in the Railroad Industry* (New York: King's Crown Press, 1954), *passim.*

Foreign Exchange Deferral and Foreign Investment

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THE PLAN for deferred foreign exchange discussed in this paper is designed to help alleviate exchange difficulties and at the same time improve relations with foreign investors in countries with a shortage of foreign exchange for capital and profit repatriation. It is important to bear in mind this second objective, since more effective means can be found for easing exchange difficulties. The plan has been developed for the circumstances of one particular country, but conditions in that country are by no means unique, and the scheme is applicable to other countries whose exchange difficulties have substantially the same characteristics.

A description of the exchange situation is required because only if it has certain attributes will the plan be useful.

Characteristics of the Exchange Situation

The plan is designed to improve the utilization of foreign exchange in short supply. A "shortage" is defined here as an excess of all demands for exchange as compared with the supply of exchange at par or at some other fixed rate which the government desires to maintain.[2]

(1) There is already in operation some sort of exchange control and it is partially, but not completely, successful in capturing the supply of foreign exchange for the government's account and control. If the government does not have some control over the supply, the existing market rate (or rates) for its currency is in fact a flexible rate and creates a problem different from the one this proposal attempts to alleviate.

(2) There exists a black market in foreign currency of considerable dimension. In addition to the simple illegal purchase and sale of foreign currencies, other illicit transactions such as the practice of "over-invoicing" by exporters and "under-invoicing" by importers will probably exist. Even though

[1] The author wishes to thank Professor Richard W. Lindholm for his critical assistance in the early stages of the development of this paper.

[2] The scheme may also be employed when multiple rates exist. It becomes more complex if this is an "auction" rate.

these take a form different from straight currency transactions, they are obviously part of the same problem. It is not a necessary condition that the "free" market for foreign currencies be illegal. The proposed plan, however, assumes an illegal market and will require some modification if this is not the case.

(3) It is presumed that a considerable portion of the funds finding their way into the black market are largely for capital, profit, and salary expatriation (either by foreigners or nationals). Again, this is not a necessary assumption for the operation of the scheme,[3] but most of the justification of the scheme depends upon its realization.

(4) The government has a current need for greater amounts of its own currency without recourse to creating it.

(5) There is a presumption, whether justified or not, against *de jure* depreciation of the currency or *de facto* depreciation through the medium of moving from a single rate to multiple rates or governmental participation in a free rate. There are several reasons for the reality of this presumption: (a) Past experience may have led to undesired inflation. (b) Membership or a pending membership in the International Monetary Fund may be a deterrent, (c) Membership in an international exchange arrangement such as the sterling area may be considered more important than the advantages gained by adopting a more complex and more independent exchange system. (d) The predilections or prejudices of second or third countries of influence (such as a country providing aid) may be an important consideration.[4]

The typical country to which the plan is applicable falls generally within the category of an underdeveloped country. Whatever definition of an underdeveloped country is accepted, one of the characteristics is a relative scarcity of capital.[5] Newly liberated "colonial" countries, in particular, are apt to find themselves in a position where the demands for repatriation of foreign investment are likely to be high. It will

[3] The specific importance of each item in the black-market demand for foreign currency depends on the country and time. Precise empirical determination would be difficult, but a knowledge of the general circumstances should permit one to make fair estimates. Raymond F. Mikesell in *Foreign Exchange in the Postwar World* (New York: Twentieth Century Fund, 1954), considering world conditions generally, notes: "In some countries, notably in Latin America, importers are permitted to use their own exchange to import goods not readily obtainable with exchange procured through official channels. In countries where this is not allowed, the demand is restricted to investment and speculative purposes or to use by individuals for travel abroad" (pp. 191-92). "The chief purpose of unofficial transactions in dollars and other free currencies is to finance capital movements for hoarding and speculation" (p. 197). Although Professor Mikesell does not specifically include capital and profit repatriation, only a slight broadening of definition is needed to fit such items into his analysis and for particular countries at particular times these are very important.

[4] These factors are real. It is not the purpose here to argue whether or not these should be overriding considerations; rather the initial assumption is made that there are strong reasons, whether justified or not, for the government not to legalize the black market with itself as a prinicipal participant.

[5] See Jacob Viner, *International Trade and Economic Development* (Glencoe: Free Press, 1952), pp. 120-26, for a discussion of popular definitions of the state of being "underdeveloped."

not be argued here but rather stated as a working assumption that the country will continue to need already existing foreign investment and will probably need even more foreign investment in the process of its development.[6]

The Proposal

The plan would provide deferred foreign exchange to those now participating in the black market. The government would make available at par a considerable amount of foreign exchange for a particular set of transactions for which exchange is not now legally available, such as (1) the repatriation of foreign capital, earnings, salaries, (2) luxury imports, and (3) flight capital. Recipients of this exchange would, as a condition of purchase, be required to purchase some amount of special government bonds.

The amount of these government bonds which the recipient of foreign exchange would be required to purchase would depend on the psychology of the black market involved and would depend on each individual market. As a first approximation, the total outlay of the purchaser should not exceed that amount which he would be required to spend in the black market to remit a given sum in foreign currency. Thus, if the black-market rate were twice the par rate, he could be required to buy an equal amount of foreign exchange and bonds and still have an expenditure in local currency no larger than he would have had in a black-market transaction. Depending on his reaction to the value of the bond issue, the penalties of being caught participating in the black market, and so on, this amount could actually exceed his expenditures on the black market and still induce purchases.[7]

Suppose the par rate of exchange between Country X, the country having the exchange difficulties, and Country Y is 50 to 1. Suppose further that the current black-market rate is 100 to 1. A is a foreign investor in Country X and has an investment salable for 1,000,000 units of Country X's currency. He desires to liquidate and to repatriate his investment. If such transactions are limited to the black market, the most that he can obtain of Country Y's currency is 10,000 units, for which he must spend 1,000,000 units of Country X's currency. If the deferred exchange plan is put into effect, A will still spend all of his Country X currency but he will get 10,000 units of Y's currency for the expenditure of 500,000 units of Country X currency plus 500,000 units of Country X government bonds.

These special government bonds should have the following features, modified according to the local situation:

(1) *They should be long-term (10 to 20 years) and callable.* The current exchange difficulty is likely to be a long-run problem with heavy demands in the next few years for visible import items for consumption and for development programs. Thus, the long term

[6] Ragnar Nurkse, *Problems of Capital Formation in Underdeveloped Countries* (New York: Oxford University Press, 1953), pp. 129-31.

[7] See K. E. Boulding, *Economic Analysis* (Rev. ed.; New York: Harper, 1948), pp. 153-55.

of the bonds is designed to postpone the demands for foreign exchange for invisibles until some time when it is hoped that the balance of payments will be better able to provide the requisite exchange. It is not implied that economic development will have occurred in ten to twenty years or that it is certain that the balance-of-payments problem will have been solved. At least, there is hope that it will be better; certainly, in some countries, it cannot get much worse. The callable feature gives the government the right to call the bonds if the balance of payments develops a surplus or if the deficit becomes small enough so that the government feels able to reduce its obligation ahead of the maturity date of the bonds.

(2) *They should be nonnegotiable for perhaps five years with no guarantee of convertibility of the proceeds if negotiated prior to maturity.* The bonds are to be initially nonnegotiable primarily because it is desired to avoid the development of a market for them in the early operation of the scheme. If a market is allowed to develop and if the price is extremely low, this will be a deterrent to the voluntary purchase of these bonds. This is a particularly important aspect in countries where a government debt, other than a "floating debt," is not well established. Nonconvertibility prior to maturity is an obvious method of keeping the initiative in the hands of the government regarding the dates when it must make foreign exchange available.

(3) *The bonds should bear a moderate, average rate of interest convertible, when earned, at par.* The "moderate" rate of interest is in part an additional incentive to invest in this type of security and in part a means of maintaining the fiction that this is a "voluntary" investment. It is certainly not the major inducement, and a relatively low average rate of interest should serve both purposes. The word "average" has been used because in particular circumstances it may be desirable to have the rate of interest vary over time. For example, if a revolution has recently occurred in the country and investors feel that with each passing year the risk of governmental collapse or default will diminish, the rate of interest can be fairly high the first year, say 10 percent, and diminish until it is only 1 percent the year before maturity. The approach of the maturity date with its guaranteed convertibility will enhance the value of the securities and offset the effect of the falling contractual interest rate unless by this time free convertibility had been established.

(4) *They should guarantee that the principal would be convertible at maturity.*

Unfortunately, no part of the plan would assure the government a supply of foreign exchange for the conversion of either interest or principal. The interest item would not loom as a large problem, and it seems that a government could comfortably assume this obligation. On the other hand, bond sales would have to be carefully rationed initially so that undue bunching would not later prove to have embarrassing consequences when the bonds matured. It should also be apparent that the amount of bonds the purchaser would be required to buy would in some way

be connected to the black-market rate, rising and falling as this rate rose and fell. This would be necessary to induce potential purchasers to leave the black market and to participate in the purchase of these securities. This appears unfair to the person who happens to be involved at the time when large purchases of bonds are required. On the other hand, if his only alternative were the black market, his losses would be greater there.

Finally, this plan would probably be superimposed on existing arrangements to permit the export of some capital items. If countries now permit repatriation, at par, of 50 percent of salaries and profits not to exceed 6 percent, the deferred exchange scheme should probably not be used as a substitute but rather in addition to these present arrangements. This would not be so much the case if the deferred exchange plan were expanded to include luxury imports and flight capital. This kind of arrangement involves the knotty administrative and analytic problem of defining the legal and arbitrary boundaries for which no solution is proposed here. If the country already has an exchange control program, this definitional problem will not be substantially different from those already experienced in rationing scarce exchange.

It is not essential that the uses for the funds so "borrowed" by the government be prescribed. Such prescription is possible and could be included in the basic legislation. The most extreme case would be to limit the use of the funds to governmental investment in projects which would contribute directly (or indirectly through loans to private investors) to the supply of foreign exchange to service the debt. Or a more general requirement that they be used for economic development projects either directly or by private loans could be utilized. Even though this leaves to chance and good management the supply of foreign exchange for debt service, it is not likely that the priority investments in these countries will be of the "foreign exchange" earning type. Another alternative is for the money simply to become part of the government's general revenues. The second alternative would be preferable because (1) of a reluctance to require the investment of funds in projects which would directly increase the supply of exchange when other activities might do more "good," and incidentally, might indirectly contribute a good deal more exchange, and because (2) debt service would require productive capacity. For this reason, it is desirable that the policy requiring this productive capacity also provide at least some of the means for fulfilling it. This may not be in accord with modern thought on budgetary procedures, but it is not at all certain that modern budgetary processes are completely applicable to politically and administratively unsophisticated societies. In any case, this point is not vital.

Analysis of the Plan

The possible success of the plan depends upon its effect on those persons now entering the black market and upon potential foreign investors. Its intent is to improve an initially bleak situation and by so doing (1) to encourage flight capital not to seek illegal

means of flight and possibly to encourage a portion of it not to fly at all, (2) to capture a greater share of the earned foreign exchange for the government by reducing incentives for selling exchange in illicit markets, and (3) to encourage potential investors, thereby increasing the total amount of foreign exchange available. This plan might attract already marginal investors (if any), but the act as a statement of the government's recognition of legitimate claims of investors and as an honest attempt to assist them might do much more.

There are three cases describing different kinds of results which might occur from instituting such a scheme.

(1) The most desirable result would occur if foreign investors were convinced of the sincerity of the government in seeking means to protect their legitimate interests and if potential investors saw this as evidence of a desirable investment climate. No bonds would be bought, because repatriation would become undesirable. On the other side of the market, the availability of foreign exchange would increase because of increased foreign investment.

(2) At the other extreme, there would be no change in the estimate of the situation by those seeking foreign exchange. Again, no bonds would be bought, and illicit transfers would be utilized as before. This is a situation no worse for the government than before and conceivably could be corrected by offering a higher percentage of exchange from the total domestic currency expenditure required of participants in the plan.

(3) From the point of view of the government, a third, and the worst, possibility exists. In this case, persons now having recourse to the black market would continue to use it and investment would not increase. Instead, those previously not utilizing the black market, for whatever reasons, would seek to repatriate funds through this new means. This would require that the government make available increasing amounts of foreign exchange without increasing its ability to capture exchange. This possibility might very well be the initial reaction to such a plan, but once the initial phase was successfully concluded a shift might occur toward the situation outlined in (1) above.

The ultimate outcome depends on the evaluation and expectations of current and potential investors; these would be extremely difficult to predict. If the situation is initially desperate, the government is not likely to find itself in a much worse position even if case (3) conditions prevail. The chances of an improvement appear to be fairly good.

The plan would result in the government's capturing a greater share of the foreign exchange than previously. Incentives to enter the black market from the demand side would be materially reduced. With a lower black-market rate, suppliers in the black market would be more prone to dispose of their exchange through the regular channels, that is, to turn their exchange over to the government. The extent to which this now occurs depends on the current institutional arrangements in the various countries. If the country legally requires that all foreign exchange earnings be sold to the government, then

all funds entering the black market are illicitly withheld from the governmental exchange control arrangements. The extent to which the government will capture additional funds as the black-market price falls depends upon the elasticity of the black-market supply, about which it is impossible to make significant generalizations. The elasticity depends in part on the probabilities of apprehension, the severity of the penalties if apprehended, and the general morality (i.e. reaction to the government's legal regulation) of the suppliers.[8] This varies greatly from country to country and from time to time within a country. The additional exchange necessary for capital items required by this scheme might all be obtained through the additional exchange captured by the government from suppliers of foreign exchange as the black market began to disappear or to become less important. This is probably an overly optimistic conclusion, but the direction of the change is certainly indicated.

It is difficult to predict the effect of the program on the foreign investors themselves. On one hand, the program offers an incentive to disinvest as it offers more advantageous possibilities compared with disinvestment through the black market. On the other hand, it may well be that investors will be increasingly disinterested in disinvestment the easier it becomes. Should such a step convince investors that the government is willing to take a cooperative and reasonable attitude toward foreign investment, then the investors may be willing to remain. New investment may even be encouraged to come. Further, the additional degree of freedom concerning the disposal of the investments is likely to increase the value of the real investment assets. This may encourage disinvestment, or it may encourage a "stand pat" attitude. The eventual outcome depends ultimately on how the policy affects the investors' expectations, which are difficult enough to guess in any given situation and impossible to generalize on an all-over-the-world basis with differences in products, political situations, and alternative investments. In general, a fairly optimistic view may be taken; mass repatriation could certainly be prevented by the basic legislation. One cannot put very much faith in any prediction, but the alternatives of multiple exchange rates, partial expropriation, or little or no exchange made available through normal exchange control channels are even more discouraging to foreign investors.

At this point, it is well to recall that the reaction by foreign investors is not required to be favorable to gain most of the benefits of the scheme. If the plan works well, the investment reaction may well be a favorable by-product. The plan applied solely to luxury imports, for example, would have much to commend it.

The one obvious advantage of the plan would be the capturing of a part of the domestic currency now entering the black market. Someone sells the

[8] It is probably not wise to exclude current account items from this analysis. A decline in the black-market rate would represent a *de facto* appreciation of the local currency for local exporters selling exchange in the black market and might thereby reduce the volume of exports but not necessarily foreign exchange earnings.

foreign currency and gains local currency. Those entering the black market on a large scale are usually those who little need or little deserve the consequent gains, and the funds thus garnered by the government could undoubtedly be put to better social use than is likely by the black marketeers. It is obvious, too, that this gain in funds would enable the government to maintain the same level of services and investment and reduce taxes (or money creation) or to maintain the tax level (or money creation rate) and expand its services and investment. As tax-collecting ability is likely to be low, any new source of funds would be welcome.

The price effects are difficult to analyze because of the difficulty in identifying the sellers of foreign currencies in current black markets and their subsequent uses of the local currencies. Presumably, domestic prices of the things now purchased by black marketeers would fall. This might, for example, mean a fall in the price of luxury imports, a fall in the price of domestically produced staples as fewer funds were available to purchase them for speculative purposes, a fall in the price of land. Generally, these funds do not find their way into new productive investments. The government's use of the funds might perhaps be initially mildly inflationary, but this effect would be overcome as the new productive capacity began to turn out additional goods. It is difficult to argue that the price effects would be substantially better than those resulting from the black market; the allocation of resources would probably be substantially better.

This proposal is really closely related to multiple exchange rates. It offers two principal advantages to those who object to the multiple rates.[9] (1) It is neither a *de jure* nor quite a *de facto* second rate. That is, it would not be easily reflected in the foreign exchange markets of the world. The existence of any appreciable black market is, of course, a *de facto* multiple rate, and to the extent that deferred exchange is successful in eliminating the black market, the ultimate result will be something more nearly related to a single rate than the initial par-black market dual rate system. (2) Multiple rates designed primarily to apply to foreign investors are in fact a partial expropriation. This program provides for a temporary expropriation on an interest-bearing basis which, from the point of view of the investors at least, is preferable to the multiple rate arrangement. At least to some extent and under some circumstances, what is good for the foreign investors will ultimately be good for the country.

The plan, while conceptually and analytically somewhat complex, would be relatively simple administratively, given an initial exchange control program. It would add little to the existing machinery or procedure and add no new principles.[10] A program of eligibility would have to be established along the same lines that would already be in use in the more usual exchange control

[9] Mikesell, *op. cit.*, pp. 171-73, 452-53, 464-65.

[10] In countries where trained administrative personnel is scarce, complex economic policy and legislation either cannot be well administered, or satisfactory administration of it absorbs too many of the trained personnel who should be doing other things.

program. A plan would also have to be developed so that the amount of bonds would have a predetermined relationship with the black-market rate. There would be no great problem here; if the black market were external, the task of keeping in touch with it could be assigned to consular officers; if it were local, the exchange office itself could easily administer the plan.

Some Problems and Disadvantages

Some of the problems have been discussed in the outline of the proposal above, but there are others.

The most important argument against this scheme is that the government would be required to "borrow" money which it could presumably acquire without any obligation on its part through the simple expedient of an "auction" of a specified amount of exchange. This had already been referred to as "partial expropriation," and it will be recalled that one of the operating premises of the proposed plan is the desire to find a workable compromise with foreign investors on the grounds that foreign investment now present is needed and that additional foreign investment will be needed as a part of the development program. It is readily admitted that if this were thought not to be the case, or if some other plan to placate foreign investors could be found within the limits of the exchange shortage, the program of deferred foreign exchange, though workable, would have little justification. This deference to foreign investors might, in some circumstances, run into political snags, but in general the required loan in the initial phase of the operation should be sufficient to overcome these.

It may also be argued that a compulsory loan would be an improper way to begin the development of a government securities market and that furthermore the nonnegotiability of the securities would prevent their use in any sort of monetary or fiscal policy for the number of years specified. There is some merit in both points. The latter difficulty could easily be rectified by including a provision that the securities could be made negotiable by the government at any time. Then if it became desirable to employ them in some kind of open-market operation, an appropriate announcement would make them negotiable.

The criticism implied in the first point requires a detailed knowledge of the current government securities market, some estimate of its potential in the future, and an explanation of what other securities might be offered in it and their probable success. The securities envisaged in this proposal would clearly not affect the government securities market, if any, until after they had become negotiable. At that time, it seems that they would tend to buoy the market rather than to depress it, for the following two reasons: (1) It is doubtful that the government securities market would in any case be well organized and established by the time these securities became negotiable. At that time they would be in the hands of private individuals who would be interested in maintaining the price at the highest possible level. That is, the potential seller, if the price were too low, would have the worth-while alternative

of holding the security as an asset. This is not the case when the government is the seller of its own securities, which in no sense represent an asset to it. Thus, the government has the alternatives of taking any price offered or of having nothing; and the placing on the market of the first government securities by the holders of deferred exchange securities might mean prices nearer par than if the government floated the loan itself. It is obvious that this depends on the assumption of no prior market for government securities. (2) The eventual exchange convertibility of these securities would give them an additional advantage and would tend to keep their price up. It would be a prime consideration as a first step in the attempt to develop a government securities market to make certain that the securities stayed at or near par; it might, in fact, be disastrous if they did not. While this convertibility aspect might keep the price of these securities high, it might also make it more difficult for the government to float more normal loans at par without an exhorbitant rate of interest. If this became a really important consideration, it could be remedied by an additional proviso in the deferred exchange security limiting the convertibility at maturity to the original owner.

Industrial Relations at the Plant Level in Three Illinois Communities[1]

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THAT the quality of union-management relations varies among establishments, even within the same industry and community, is a generally accepted fact. The nature and degree of the variation, however, are largely a matter of impressions and subjective judgment. Until the end of World War II, most studies of the union-management relationship were confined to individual cases, and inter-establishment comparison was inhibited by the use of varying concepts and descriptive techniques. During the postwar decade a number of multi-establishment studies[2] were conducted but most of them were either limited to a very few cases or lacked the degree of standardization essential for reasonably precise comparison and analysis. The need for comparative studies therefore

[1] Data for this paper were gathered in the Decatur and East St. Louis areas by Herbert Schaffer and Robert Ver Nooy and in the Carbondale-Herrin area by Professor Milton Edelman of Southern Illinois University and Sheldon Luskin. The processing of the data was done by Sheldon Luskin, Herbert Soldz, Robert Mitchell, and John Tipton.

[2] See, for example, Clinton S. Golden and Virginia D. Parker (eds.), *Causes of Industrial Peace Under Collective Bargaining* (New York: Harper, 1955); Frederick H. Harbison and John R. Coleman, *Goals and Strategy in Collective Bargaining* (New York: Harper, 1951); Richard A. Lester and Edward A. Robie, *Constructive Labor Relations* (Princeton: Princeton University Press, 1948); Dale Yoder and others, *Triple Audit of Industrial Relations* (Minneapolis: University of Minnesota, 1951); and the authors' *Labor-Management Relations in Illini City* (Champaign: University of Illinois, 1954).

remains pressing if a scientific, organized body of knowledge is to be developed about the nature of industrial relations and the reasons for its varied forms, processes, and results.[3]

Nature of the Study

This article presents some of the findings of a study[4] conducted in three Illinois communities — Decatur, East St. Louis, and the Carbondale-Herrin area — between July, 1955, and August, 1956. The study covered all of the larger unionized establishments in the three localities — those with 200 or more employees in Decatur and East St. Louis and those with 75 or more employees in the Carbondale-Herrin area. In all, 51 establishments were surveyed, of which 41 had collective bargaining contracts confined to the establishment and 10 were under multi-unit contracts. Only the 41 single-plant contract cases will be discussed in this article.[5]

The sample units varied widely in size, nature of product, types of unions, and other characteristics. All but three were manufacturing establishments. None, it should be noted, were giant enterprises which set patterns for large segments of industry throughout the nation although many were branches of major national corporations. Neither did the sample give much weight, because of the unit-size limitation, to the small-establishment, highly competitive, heavily union-influenced type of local industry such as building construction or truck transportation.

The data were gathered in each establishment through standardized interviews with two top representatives of management and two top union leaders who were most familiar with the conduct of relations in the establishment.[6] The questions related to contract provisions and practices, attitudes, economic factors, and other associated items. After the four interviews were completed, the responses to the fact-type questions (about half of all the questions) were checked. If at least three of the four respondents did not agree on a given item, one representative from each side was reinterviewed to find out why the difference existed. Sometimes there was a genuine difference in perception of the facts due to different standards or experiences; frequently, however, the difference was due to a misunderstanding in the first interview and a more accurate response was obtained. This check was not at-

[3] This need is strongly emphasized by Joseph Shister in Industrial Relations Research Association, *A Decade of Industrial Relations Research, 1946-1956* (New York: Harper, 1958), Chapter 2.

[4] For a more detailed statement of the design of the study, see "Uniformities and Differences in Local Union-Management Relationships," *Industrial and Labor Relations Review,* Vol. 11 (October, 1957), pp. 56-71; and "Environmental Variables and Union-Management Accommodation," *Industrial and Labor Relations Review,* Vol. 11 (April, 1958), pp. 413-28.

[5] Inclusion of the multi-unit contract cases raises a number of problems that would lengthen this article unduly. These cases are to be analyzed in a forthcoming monograph.

[6] Leadership perceptions and attitudes regarding a union-management relationship are not, of course, the only basis for obtaining a description of the relationship. They may differ considerably from the picture obtained through worker and foremen interviews or through direct observations of an outside investigator. Nevertheless, they are an important, if incomplete, view of the process by the men who are probably best informed and who determine the main rules.

tempted with regard to the attitudinal questions since there was no reason to expect the parties to have the same attitudes on a subject.

Some Theoretical Considerations

The union-management relationship within an establishment may be described in a variety of significant ways. The number of factors involved is great and different observers will inevitably focus their attention on different phases of the relationship or give different emphasis to particular phases. The nature of the description and analysis will depend, in large measure, on the values and disciplinary training of the observer. There is no one "right" approach.

Many writers have treated the union-management relationship in broad terms as an accommodation process between two organized groups with some common interests and needs but with others which conflict. However, they have varied in their more specific elaboration of this concept. Several, including Bakke, Drucker, and Whyte,[7] have found it helpful to view the establishment as a small society and to analyze its culture, communication processes, and ways of resolving conflicts within that kind of a framework. Slichter,[8] among others, has conceived of collective bargaining from two points of view — as a system for setting the price of labor and as a system of industrial jurisprudence, i.e., a method of introducing civil rights and curbing arbitrary action in industry. The first of these systems has often been conceptualized in terms of the economist's market model; the second has pursued the analogy of political rule-making, administration, and judicial interpretation. Chamberlain[9] has favored a conception of the union-management relationship in managerial terms — as a procedure for making business decisions or a method of fulfilling the managerial function.

Another particularly useful way of looking at union-management relations in the establishment is through the concepts and framework of industrial government. As developed by John R. Commons, Selig Perlman, and William M. Leiserson, the union-management relationship may be regarded as a process through which the union attempts to influence and participate in the administration or government of the "job territory."[10] Prior to unionization in

[7] E. Wight Bakke, *Adaptive Human Behavior* (New Haven: Yale University, Labor and Management Center, 1950); Peter F. Drucker, *The New Society* (New York: Harper, 1950); and William F. Whyte, *Pattern for Industrial Peace* (New York: Harper, 1951).

[8] Sumner H. Slichter, *Union Policies and Industrial Management* (Washington: Brookings Institution, 1941).

[9] Neil W. Chamberlain, *The Union Challenge to Management Control* (New York: Harper, 1948).

[10] See, for example, John R. Commons and others, *Industrial Government* (New York: Macmillan, 1921); William M. Leiserson, "Constitutional Government in American Industries," *American Economic Review, Supplement,* Vol. 12 (March, 1922), pp. 56-79; Selig Perlman, *A Theory of the Labor Movement* (New York: Macmillan, 1928); L. Reed Tripp, "The Union's Role in Industry — Its Extent and Limits," in Industrial Relations Research Association, *Interpreting the Labor Movement* (Champaign: Twin City Printing Company, 1952); Neil W. Chamberlain, *Collective Bargaining* (New York: McGraw-Hill, 1951).

this country, the determination of conditions and rules of employment was almost exclusively the responsibility of the employer. With the rise of unions, the employer was forced to share this rule-making responsibility, and in a few respects, even to yield it entirely. The primary responsibility for administration, however, continues to rest with management, and the union functions mainly as critic or "loyal opposition." Except in the areas of wages, hours, and a few other conditions of employment, American unions have not seriously attempted to assume the managerial role or to become codeterminers of the industrial process.

The Key Questions

Starting with this general concept of industrial government, we may raise a series of key questions for the purpose of comparative description and analysis:

(1) How wide a job territory does the system cover — part of a plant, an entire plant, a company, a local industry, a regional industry, a national industry, a group of different industries on a local, regional, or national basis?

(2) In what phase of the governmental process does the union have a voice or role, and how extensive is this voice or role?

(3) Where is the leadership of the industrial government lodged — in local management and union leaders or in outside authorities (company home office or international union headquarters)?

(4) Is the system autogenous (self-sufficient or self-dependent) or does it frequently have to call on outside mediators, arbitrators, and other specialists for aid?

(5) To what extent are pressure tactics relied upon to resolve conflicts of interest?

(6) Does it function in a formalistic, legalistic fashion or is it informal in character?

(7) Is it a relatively stable system or does it have frequent changes of leadership and group representation? Can it, in other words, effectively cope with pressures and crises?

(8) Is it an economically rewarding system — from the point of view of the owners, the managers, and the workers?

(9) Is it a system which satisfies overall the groups or individuals who comprise it?

This list of questions is by no means exhaustive. Many other questions regarding the nature of industrial government could appropriately be raised — the speed with which decisions are made and carried out, the complexity of the decision-making and administrative machinery, the degree to which accepted democratic safeguards and privileges are available, the honesty of the government, its productive efficiency, and so on.

The research design did not permit the securing of answers to all of these questions; it made it possible to study some questions more effectively than others. Limitation of time and funds was, of course, another restricting factor. The following pages sum up as concisely as possible the answers which were found to a number of these questions in the sample of 41 establishments

The Findings

Size of Job Territory

As noted above, of the 51 establishments in the total sample, 41 had contracts which applied only to the individual establishment whereas 10 operated under multi-plant agreements. Of the group of 41, 30 had single industrial-type unions representing all or the great majority of the hourly paid workers and 7 others had one dominant industrial-type union plus one or more (up to five) unions representing small craft groups, such as guards, truck drivers, and electricians. Of the remaining 4 establishments, one was unionized only in its warehouse division, a second had four unions representing its four major divisions, a third had separate unions in its two main divisions, and the last had two fairly sizable production unions and two small craft unions.

In all but 5 establishments, the dominant union belonged to an international affiliated with the AFL-CIO. Where there were separate units for plant guards (3 establishments), they belonged to an independent national guards union. In 4 of the 5 other establishments, the bargaining representative was District 50 of the United Mine Workers Union and in the fifth establishment it was the independent Mine, Mill, and Smelter Workers Union, which had been expelled from the CIO in 1950. Only 12 of the establishments were local firms. The others were branches or subsidiaries of larger corporations.

Scope of Union Influence[11]

The topics on which the union had

[11] For more details of this subject, see the authors' "Collective Bargaining and Management Functions," *Journal of Business of University of Chicago*, Vol. 31 (April, 1958), pp. 107-20.

Table 1. Scope of Union Influence in Selected Managerial Functions, 41 Establishments

Function	Number of establishments	Percent
Promotion to nonsupervisory position	35	85.4
Promotion to supervisory position	1	2.4
Distribution of overtime	39	95.1
Number of employees on a job or machine	18	43.9
Contracting work out	5	12.2
Scheduling of operations	4	9.8
Layout of equipment	0	0.0
Plant location or relocation	0	0.0
Transfers of employees within plant	38	92.7
Customer relations and/or services	0	0.0
Job content	30	73.2
Level of work performance	26	63.4
Selection of new employees	1	2.4
Job evaluation program	10	24.4
Source of materials used	0	0.0
Assignment of new employees	18	43.9
Product prices	0	0.0
Physical examinations	3	7.3
Accounting practices	0	0.0
Number of shifts	9	22.0

some voice (either in contract negotiations or in grievance settlement) related very closely to employment and work conditions. Out of a list of twenty items other than the commonly accepted collective bargaining issues (such as wages, union security, seniority, discharge, and grievance procedure), only eight were subject to union influence in a substantial proportion of the establishments. (See Table 1.) These included promotion to nonsupervisory position, distribution of overtime, number of employees on a job or machine, transfer of employees within plant, job content, level of work performance, job evaluation, and assignment of new employees. On the other hand, management had complete or nearly complete freedom in the great majority of plants to make promotions to supervisory positions, schedule operations, contract work out, lay out the equipment, locate or relocate the plant, deal with customers, select new employees, determine which materials should be used, fix product prices, require physical examinations, and determine the number of shifts. In other words, the unions in the sample had gained at least some degree of influence on many issues directly affecting the job but did not generally exercise influence on most other functions of management.

Depth of Union Influence

Within the subject areas in which some union voice or influence was reported, varied degrees of influence were found. Perhaps the smallest amount of variation existed in the area of union security. Thirty of the 41 establishments had the union shop, 1 had the union shop plus preferential hiring, 6 had a maintenance-of-membership provision, and 4 had the minimum of union protection under the National Labor Management Relations Act — sole collective bargaining rights.

The use of seniority in the case of layoffs revealed somewhat more variation — in part, perhaps, because the norms of unions regarding seniority vary more than they do regarding union security. In 25 establishments strict seniority was followed; in 5 cases strict seniority was the general rule but there were occasional exceptions; in 4 cases seniority determined only if all other factors were equal; in 1 case seniority was not used at all; and in the remaining 6 the perceptions of management and union failed to agree as to the prevailing practice.

The variation on grievance procedure was somewhat similar to that on seniority. In 25 establishments any item could be raised as a grievance; in 7 cases only items specifically covered by the contract could be raised as a grievance; in 3 cases items not covered by the contract could be treated as a grievance if the parties mutually agreed; in 1 case certain specified items outside the contract could be treated as grievances on the initiative of either party; and in the 5 remaining cases the parties differed in their perceptions of the practice.

In a number of areas such as the setting of safety rules, the making of time studies, the introduction of major technological changes, and the discharge of inefficient employees, the key issue was whether management could take action without prior union consul-

tation or whether the union had to be informed or consulted or bargained with before an action was taken. The survey revealed that time study was still left largely to management with the union functioning almost entirely in the role of griever if it was not satisfied with the results of the management studies. This was the case in all but 2 of the 23 establishments where time studies were made and in the 2 exceptions, practice was disputed. Where significant technological changes were involved, management retained freedom of action subject only to the grievance machinery in 12 establishments, but in 12 other establishments it was required to give the union prior notice, and in an additional 12 establishments management was obliged to consult with the union before making the change although it did not have to obtain union agreement. In 3 establishments no significant technological changes had been undertaken in the past year and in two cases practice was in doubt.

In the area of safety rules, management had complete freedom of initiative in 9 establishments, was required to consult with the union in advance of setting new rules in 23 cases, and had to reach prior agreement with the union in 5 cases. Practice was unclear in 4 establishments. Finally with regard to discharge situations, management was free to act, subject only to the grievance procedure, in 6 establishments, had to give prior information to the union in 17 cases, had to consult with the union prior to discharge in 12 cases, and had to gain prior union consent in 2 cases. Four establishments were in the doubtful category.

Locus of Authority

One of the significant tendencies in American industrial relations is believed to be the growing importance of centralized authority. The survey data on this subject were limited but they appeared to indicate that officials outside the establishments were playing important advisory and decision-making roles, particularly on the union side. In 34 of the 41 establishments an outside union official (either a regional or international representative) regularly participated in contract negotiations and in the last stages of grievance settlement; in 6 other cases such participation was limited to emergencies, such as a threatened strike; only in 1 case was the "outsider" not relied upon. In addition to such participation, in 29 of the 41 cases contracts had to be submitted to the international union office for approval. While this approval was often merely a formality, the existence of the practice was significant indication of the importance of the international union in local collective bargaining.

On the management side, local authority was more prevalent, partly because 11 of the 41 establishments were single-plant firms and 1 was the home office of a multi-unit firm. In 9 of the 29 remaining firms, outside company officials never participated in either contract negotiations or grievance settlement; in 17, central office representatives regularly participated; in 2 cases they participated only in emergencies; in 1 case practice was unclear. Contracts had to be submitted for outside approval in 14 cases; in 26 cases the negotiators had full authority; in 1 case practice was unclear.

Degree of Autogeny

How successful are managements and unions in settling their affairs without the need of calling on outside mediators, conciliators, or arbitrators? The respondents in the sample were asked about their experience in the past four contract negotiations and in the preceding two years of grievance settlement. In the case of contract negotiations, 17 establishments reported that they had uniformly reached agreement without the aid of mediators or conciliators, 11 establishments had required assistance on one occasion, 7 had required assistance on two occasions, 2 had used outsiders three times, 1 had used them either two or three times, and 3 establishments had called on such aid during each of the four contract negotiations.

The parties were considerably more self-sufficient when it came to grievance settlement. Although 32 of the establishments made some provision for arbitration of unsettled grievances (the rather high proportion of cases without such provision was due mainly to the policy of a single prominent union in one community), only 10 had submitted cases to arbitration in the past two years. In 3 establishments there was only one submission; in 3 other establishments there were two submissions; and in 4 establishments there were from three to eight arbitrations.

Use of Pressure

One of the characteristics of a system of industrial government is the manner in which conflicts of interest are resolved. To what extent are settlements based on the use of pressure? An attempt was made to assess this characteristic through two related measures — the number of work stoppages in the two years preceding the interviews and the extent to which the parties relied on threats of stoppages, slowdowns, moving the plant, elimination of overtime, and so on in contract negotiations and grievance settlement.

Most establishments in the sample had not experienced any work stoppages during the preceding two years. Twenty-nine of the 41 reported no stoppages lasting a day or more. Twelve establishments, however, did have at least one such stoppage, with 1 plant having two and 1 having three during the period. The data on work stoppages of less than one day's duration are less reliable but 6 establishments reported one such occurrence, one reported three, and two reported four. The remaining 32 establishments reported that they were free from such disturbances.

The use of pressure tactics, such as union threats of strikes or slowdowns and management threats of closing the plant or eliminating overtime, was more extensive than the occurrence of work stoppages. Only 15 establishments reported no yielding to pressure on the part of either management or union in their last contract negotiations; 15 others perceived a slight amount of yielding to avoid a work stoppage; and 11 felt that one or both sides had yielded to a considerable extent. The overt resort to threats of strikes and so forth in contract negotiations was reported in 17 of the 41 cases; in grievance settlements threats were less common, being reported in only 12 establishments.

Degree of Conformity to Contract

An interesting phase of industrial government — and one that is often quite revealing about the quality of the process — is the degree to which the basic rules established in the contract are followed. The study revealed a great deal of divergence between contract and practice, with some provisions being adhered to much more widely than others and with some establishments following their contracts in general much more closely than others.[12] Over-all, management and union spokesmen in 11 establishments reported that they adhered strictly to the contract in settling grievances; in 26 establishments the management representatives and in 27 establishments the union representatives stated that they sometimes made exceptions to the contract in settling grievances; and in 4 establishments the management representatives and in 3 establishments the union representatives reported that they looked at each grievance case on its own merits regardless of the contract.

There was somewhat greater flexibility in respect to following the grievance procedure. In 15 establishments the parties reported that they always followed the grievance procedure; in 19 establishments they said that exceptions were made sometimes; and in 7 establishments they stated that they did not take the procedure too literally.

[12] A detailed examination of this subject is presented in an article by the authors entitled "The Labor Contract: Provision and Practice," *Personnel,* Vol. 34 (January-February, 1958), pp. 19-30.

Duration and Stability of the Relationship

The relationships varied widely in their duration and stability. Collective bargaining had been in effect since about 1900 in 1 establishment and for less than four years in 2 plants. In between these extremes, 4 establishments were found in the 4-7 year class, 9 in the 8-11 year class, 6 in the 12-15 year class, 7 in the 16-19 year class, and 12 in the 20-25 year class. Often, however, a change of unions had occurred in an establishment owing to interunion competition, factionalism, or the desire of the workers to shift from independent union status to affiliation with one of the international organizations. Thus of the 13 establishments with 20 or more years of collective bargaining experience, only 6 had the same union throughout the period. Nevertheless, despite the dynamic character of labor relations since 1933, the present union had functioned for twelve or more years in 22 of the 41 establishments and ten other unions had functioned continuously for over five years.

The continuity of the negotiators was, of course, less extensive than that of the collective bargaining relationship. However, there were 16 establishments in which at least one chief management spokesman had twelve or more years of continuous responsibility for dealing with the unions and in 10 other establishments at least one management spokesman had over five years continuous experience. On the other hand, in 6 establishments the manage-

ment representatives had less than two years experience with the relationship, in 4 establishments between two and three years, and in 4 establishments between four and five years. As might be expected, the turnover of union spokesmen was greater. In 12 establishments the union representative had less than four years of leadership responsibility, in 13 establishments between four and seven years, in 8 establishments between eight and eleven years, and in 8 establishments between twelve and nineteen years.

Worker Economic Status[13]

The question of economic rewards is at once an extremely important and extremely difficult one to answer. One of the primary functions of industrial government is to determine the distribution of income received by the establishment. One of the primary goals of union organizations is to obtain as favorable economic returns to their members as they can. The difficulty comes in deciding what economic measure to use and what kind of comparison to make. Comparison is handicapped because wage levels are unquestionably affected, among other things, by the norms of the parties and these norms in turn are affected by different "orbits of comparison." Obviously the particular industry or competitive situation is one source of wage norms; but regional and community levels are also taken into consideration in the determination of what constitutes an acceptable wage. Thus it is not easy to decide whether a given establishment is above or below the expected economic return to the workers.

One of the more common (although perhaps overly simple) bases for measuring and comparing worker economic status is to compare average hourly earnings in the establishment with the average for the industry involved as compiled by the United States Bureau of Labor Statistics. Out of this comparison, it was found that of the 41 establishments in the sample, 10 had averages above the relevant industry average, 6 were approximately (plus or minus two cents) at the average, and 25 were below the average. This distribution was significantly pulled downward by the fact that all but 1 of the 14 establishments in the Carbondale-Herrin area were below their industry averages — an apparent reflection of the semirural character of the area and the recency and general weakness of union organization in the manufacturing sector. This observation, incidentally, confirms the importance of community norms in wage determination.

Attitudes and Satisfactions

How did the parties feel about their relationship over-all? Did they feel that the process was working out well or poorly? The survey revealed that most (about three-fourths) of the management and union leaders were generally satisfied regarding their relationship with the other side. In 31 of the 41 establishments the management representatives were either moderately or very satisfied with the union. In 30 of the establishments the union repre-

[13] Unfortunately, the data did not permit a similar comparison on profits or managerial rewards.

sentatives had similar feelings about management. In 3 establishments both management spokesmen were dissatisfied with the union; in 4 establishments both union spokesmen were dissatisfied with management. In the remaining cases the spokesmen were divided among themselves.

However, the fact that one was satisfied did not necessarily mean that the other side was equally satisfied. In 26 establishments all of the management and union representatives interviewed expressed either moderate or high satisfaction. In 14 establishments the responses were mixed, with one or more of the four respondents expressing dissatisfaction and the others expressing satisfaction. In 1 establishment all of the respondents expressed dissatisfaction.

This general attitudinal picture was supported by answers to more specific questions. Thus, in 33 of the 41 establishments, management reported that they had a reasonably free hand in running the plant; only in 5 establishments was it felt that the union often interfered with the management function; in the other 3 establishments management opinion was divided. Similarly, on the question of union power, there were only 8 establishments in which management felt that the union had too much power in many respects. In 10 establishments management said that the union did not have too much power at all; in 6 they felt that the union had too much power only in a few respects; and in 8 they were divided between "not too much power" and "too much in a few respects." In the remaining 9 establishments management spokesmen were divided between those who were concerned about union power and those who were not.

Perhaps the most extensive management criticism came in the areas of discipline and production. In 9 establishments both management spokesmen reported some union interference with discipline and in 13 other establishments one management representative expressed a similar view. In the remaining 19 establishments management commented more or less favorably about the union role. Likewise on production matters, both management respondents in 8 establishments reported some union obstructionism and one management representative in 16 other establishments expressed a similar view. In the remaining 17 establishments management found the union either extremely cooperative or at least willing to go along.

Company abuse of power was apparently not a serious problem for most of the unions. Only in 2 establishments did both of the union respondents feel that the company *frequently* abused its power, and only in 6 establishments did one union leader express this view. In the remaining establishments the answer was "rarely" or "occasionally."

In 31 of the 41 establishments the union leaders thought the top management was generally reasonable in discussing union claims, in only one establishment did both union respondents regard management as frequently unreasonable, and in 9 establishments there were mixed union views on management reasonableness. Similarly the union leaders felt that management understood the problems of the union pretty well in 29 establishments, had

limited or little understanding in only 4 establishments, and were divided in the remaining 8 cases.

The unionists perceived management attitude toward the union as being rather more favorable than management responses indicated. Thirty-four managements were believed to be either moderately or strongly favorable toward the union; only 2 were considered unfavorable, and in the other 5 cases opinion was divided.

A Composite Picture

If the modal findings for each of the characteristics investigated are now combined, the following composite or typical picture is obtained of union-management relations in the larger industrial establishments of these three Illinois communities:

(1) Collective bargaining was on a plant-wide basis for production or hourly paid workers, and between a branch or subsidiary of a multi-unit corporation and a local of an international union affiliated with the AFL-CIO.

(2) Union status seemed to be firm and assured. The union shop was in effect; strict seniority was used in time of layoffs; almost any item could be taken up as a grievance through the grievance procedure.

(3) In addition to the traditional subjects of wages, hours, and working conditions, the union negotiated over a wide variety of topics directly related to the job territory, such as promotions to nonsupervisory positions, distribution of overtime, transfers, job content, and level of work performance. However, on subjects less directly related to the job, as well as a number of engineering and production matters, the union had little or no voice. Examples were layout of equipment, scheduling of operations, customer relations, selection of new employees, source of materials used, and product prices.

(4) In general the initiative in performing the management function rested with the employer. The union acted mainly as griever or critic in such areas as time study, technological change, discharge, and safety. However, on the latter three items, the management was expected to inform or consult with the union prior to the initiation of the action.

(5) The international union played an important role in the local relationship. One of its representatives regularly participated in contract negotiations and/or in the last stages of grievance settlement. Any new agreement had to be submitted to the international office for approval. If the establishment was part of a larger corporation, a central office representative regularly participated in contract negotiations; the negotiators, however, usually had full authority to reach an agreement.

(6) The parties occasionally (once in four negotiations) had to call on outside mediators or conciliators for assistance. But in grievance settlement they were able to dispose of their cases without going to arbitration.

(7) During the past two years it had been possible to negotiate a new contract without a work stoppage, and the parties stated that threats of such a stoppage had not been used. On

the other hand, it was admitted that there had been some yielding by one or both sides to avoid a work stoppage. Pressure tactics were reported to be less of a factor in grievance settlement than in contract negotiations.

(8) There was a considerable divergence between contract clause and practice although some provisions were adhered to more strictly than others. In grievance settlement exceptions to the contract were sometimes made and the grievance procedure was not always followed.

(9) On the whole the relationship was a fairly stable one. Collective bargaining had been in effect for about fifteen years and the present union had functioned for a dozen years. At least one management spokesman had had over five years of responsibility and experience in dealing with the union; the chief union spokesman had slightly shorter tenure.

(10) The wage level in the establishment was not high. In comparison with the industry nationally, hourly earnings were average, or below, depending on which community the plant was located in.

(11) In general the parties were at least moderately satisfied with their relationship. Management felt it had a reasonably free hand in running the plant although one of the two management spokesmen was critical of the union role in discipline and production matters, and felt that the union had too much power in a few respects. Company abuse of power was apparently not a problem from the union point of view. The union spokesmen thought the company was generally reasonable in discussing union claims, understood pretty well the problem of the union, and were at least moderately well disposed toward the union.

Variations from the Composite Picture

Few, if any, establishments actually had all these features. A careful examination of the individual relationships revealed that they fell into fairly distinctive clusters or types.[14] Twenty-nine of the 41 cases could be assigned to five major types; the remainder were spread among seven other categories. The typing system which was developed is only one of many that might be used. It was arbitrarily based on three key variables or sets of variables — the extent of union influence in the decision-making process, the degree of pressure used by the parties in contract negotiations and grievance settlement, and the attitudes of the management and union leaders toward the other side. Obviously these three variables cover only a portion of the characteristics discussed in the previous section of this article. However, they are an important part, and they help to explain the amount of variability which exists among the establishments in our sample. By way of illustration, three of the types (A, B, E), which may be said to cover a substantial portion of the range of variation, are summarized.

Type A, into which 8 of the 41 establishments fell, provided an example of the situation where the union had

[14] For a fuller analysis of the clusters, see the authors' article "Uniformities and Differences in Local Union-Management Relationships," *op. cit.*

achieved a relatively high degree of influence, pressure tactics were a significant factor, and attitudes, especially of management to the union, were unfavorable. This might be labeled a union-dominated, management-hostile type of industrial government. The union shop was the most prevalent form of union security, strict seniority was used in time of layoffs, and any item could be raised as a grievance. The union also had a strong voice over the way the job territory was administered in other respects. Among the items which were subject to union influence were the number of employees on a job or machine, the job content, the level of work performance, and the assignment of new employees. In areas such as safety rules, technological changes, and discharge, the employer was obliged to consult with the union prior to taking action although prior agreement was not necessary.

This type of relationship depended heavily on outsiders to work out its problems. Although central office managerial officials did not participate in negotiations, the local management representatives had to submit their major agreements to the main office for approval. On the union side, international representatives regularly participated in negotiations. Government mediators were frequently required to bring contract negotiations to a conclusion. Work stoppages were a common occurrence in such negotiations.

Type A relationships were not new to collective bargaining. The average duration of the relationship had been about fifteen years and the chief union and management representatives had ten and seven years experience respectively in dealing with the other side in the establishment. Administration of the contract tended to be on the informal and non-legalistic side. Wages were high for the community and area but just about average for the industry involved throughout the nation.

Management felt that the union had too much power in many respects, frequently interfered with the management function, sometimes interfered with discipline, and sometimes obstructed production. The union attitude toward management was less critical; it tended to find management moderately reasonable and understanding and not abusing its power. Overall, however, both sides tended to rank on the low half of the satisfaction scale.

Type B, consisting of 6 establishments in the sample, contrasted sharply with Type A in terms of the major variables involved. It was comprised of relationships in which union influence was relatively low, use of pressure was totally or virtually absent, and attitudes were highly or moderately favorable on both sides. It might be labeled as management-dominated, union-acquiescent.

The relative weakness of the union was reflected in the fact that only 2 of the 6 establishments in the cluster had achieved the union shop, only 3 of the group had won strict seniority, and only 3 permitted grievances to be raised on issues not covered by the contract. Union voice on other job matters was also limited. Although the union tended to have a voice in promotions to nonsupervisory positions and job content, it did not exercise any influence on the number of employees on a job or machine,

on work standards and performance, or on the assignment of new employees. The union was ordinarily consulted on the formulation of safety rules, but management had exclusive responsibility for time studies, technological change, or discharge and there was no advance notice or consultation.

Interestingly, this type was quite similar to Type A when it came to outside intervention. Home office and international union officials regularly participated in contract negotiations and the last stages of grievance settlement. Mediators were required in about half the cases. The conspicuous difference was in the absence of work stoppages.

Type B relationships were somewhat younger than Type A. The average duration was between ten and eleven years and the chief union and management representatives had seven and nine years experience respectively in dealing with each other. Administration of the contract tended to be on the strict or legalistic side. Wages were high for the community but low in the sample as a whole and below the national average for the industry.

Except in a few isolated respects, the attitudes of the management and union leaders toward each other were highly or moderately favorable, and both sides were at least reasonably satisfied with the joint relationship. In a few instances management would have preferred the union to have no voice and the union thought wages and fringes were too low. But neither side perceived any significant abuse of power.

The third of the types to be described (Type E), consisting of 4 establishments in the sample, was like Type A in high union influence and like Type B in low pressure and favorable attitudes. It might therefore be labeled as a high union influence, mutually friendly relationship.

The high level of union influence was reflected in the union shop, strict seniority, and the right of the union to raise a grievance on any item. It was also indicated by the fact that management either informed or consulted with the union prior to taking action with respect to safety rules, technological changes, and discharges. It was less evident in the scope of union influence, this type falling about halfway between Types A and B. Thus the union usually had a voice in the area of promotions, job content, and work performance, but only in some establishments on the number of employees on a job or the assignment of new employees.

This type did not reveal any distinctive pattern on outside management and union intervention. Mediators were a common factor in contract negotiations but arbitrators were not required and work stoppages were not resorted to.

Type E was like Type A in the duration of bargaining experience (over fourteen years on the average) and the chief management and union negotiators had thirteen and nine years of experience respectively in dealing with the other side. Like Type A again, contract administration was informal and nonlegalistic. Wages tended to be somewhat higher on the average than in A — being not only on the high side in the community and area but also at or above the national average of the industry.

The attitudes of the parties were almost uniformly favorable and satisfaction was expressed on most items. There were a few exceptions. The union expressed some concern with the depth of union influence and with the manner of grievance settlement; the management indicated some concern about union cooperation in discharge cases. But neither side felt that power was abused.

It is not practicable to describe the other, less-frequent types in this article. The purpose of describing these major clusters is to show that the *pattern* of the relationship is often more revealing than the response to a single question or a measure of a single variable.

Conclusions

When one considers the various kinds of collective relations which have prevailed in the American past, and particularly when one considers the range of practice and experimentation throughout the contemporary world — including the state-regulated variety, codetermination, joint consultation, and producers' cooperation — this brief analysis of collectively bargained industrial government in Illinois suggests a strong tendency toward a common pattern. The basic Illinois pattern appears to be one in which the main rules relating to the job territory are determined jointly by management and union officials, with the administrative initiative left largely to management. The union is often informed or advised prior to management action but acts principally as a protest or grievance agency rather than as coadministrator. Outside the employment sphere, the union has relatively little voice in the affairs of the establishment.

This does not mean that the variations among establishments are not important. The accommodation process is found to vary from a high level of mutual satisfaction to a condition of considerable friction and hostility, from a situation in which management pretty much calls the tune to one in which the union must be consulted before important decisions are put into effect, from a relationship that adheres strictly to formal rules and procedures to one that often deviates from the written contract. Such variations not only may have significance for the welfare and happiness of the individuals involved but may also affect the survival and progress of the establishment as an entity.

The study suggests that it is possible to assign establishments to various overall types or clusters as well as to compare them on the basis of individual dimensions. Both of these approaches may make it easier to explain why various differences exist and how management and union can achieve the kind of relationship which they regard as most desirable.

Price and Production Behavior in Recession

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DURING the 1930's, many reasons were advanced for the severity of unemployment during the depression. Some economists found the answer in the behavior of prices at that time. They noted that in such key industries as automobiles, iron and steel, and agricultural implements, a small increase in price was accompanied by a substantial decline in production. In direct contrast, agricultural production was only slightly curtailed while prices declined sharply. Various studies of the 1929-33 experience were undertaken to determine what relationship, if any, existed between changes in price and production.[1]

However, no new surveys have been made for subsequent recessions such as 1937-38, 1948-49, and 1953-54. This article is an effort to bridge this gap by providing an analysis of the experience during the 1948-49 and 1953-54 downturns in economic activity.

Method of Analysis

The relationships between changes in production shown by the components of the Federal Reserve Board index of industrial production and changes in wholesale prices reported by the Bureau of Labor Statistics are examined here for the first two postwar recessions. As in earlier studies, annual data were used for both periods in order to avoid the problem of seasonal price movements and the problem of adequacy of Federal Reserve Board seasonal adjust-

[1] See, for example, National Resources Committee, *The Structure of the American Economy,* Part I, *Basic Characteristics,* a report prepared under the direction of Gardiner C. Means (Washington: U. S. Government Printing Office, 1939); Saul Nelson and Walter G. Keim, *Price Behavior and Business Policy,* Monograph No. 1 of the Temporary National Economic Committee (Washington: U. S. Government Printing Office, 1940); Willard L. Thorp and Walter F. Crowder, *The Structure of Industry,* TNEC Monograph No. 27 (Washington: U. S. Government Printing Office, 1941); Ernest M. Doblin, "Some Aspects of Price Flexibility," *Review of Economic Statistics,* Vol. 22 (November, 1940), pp. 183-89; and Jules Backman, "Price Inflexibility and Changes in Production," *American Economic Review,* Vol. 29 (September, 1939), pp. 480-86.

ments. For example, a check of the changes in the components of the FRB index from July, 1953, when the total index reached its peak, to July, 1954, when it was at its low point, results in essentially the same picture shown by the annual data.

In connection with this analysis, the following limitations of the data must be kept in mind. The FRB and BLS indexes do not cover identical segments of the economy. The Federal Reserve Board index includes *industry* groups and subgroups based on the Standard Industrial Classification. The Bureau of Labor Statistics wholesale price index includes individual *products* and is not based on the Standard Industrial Classification. However, groups of related product prices tend to give a general picture of the trend in prices for an industry. Thus, even though many of the price and production indexes do not match precisely, there appears to be enough similarity in the various categories to make the comparisons valid.

The BLS index has some limitations as a precise measure of real price change. For example, it does not measure "some improvements in quality, hidden discounts, differences in delivery schedules, etc."[2] To the extent that these and other factors are important, the data may lose some of their significance. Nevertheless, the index does portray the approximate picture of price change and hence is useful in the comparisons made here.

This analysis started with the 175 industries contained in the monthly industrial production index. The descriptions of these industries and the products included in the wholesale price index were examined and the most closely related groups in the two indexes were matched.

In addition to the 175 groups, the FRB index contains a number of subgroups. Thus, for example, fabricated metal products is shown as one group, with four components: structural metal parts, stampings and miscellaneous metal products, tin cans, and furnaces, gas ranges, and heaters. Where price data could be obtained for such component groups, those production indexes were used. In the illustration cited, both price and production data were available for the four component fabricated metal products and hence the data were shown for each group separately and the composite group was omitted.

Where such data were not available, the data for the broader group were used. Thus, for hosiery, subgroups were available showing production of full-fashioned hosiery and seamless hosiery. However, the same breakdown was not available in the BLS price data and comparisons were made for the entire group.

The present survey includes 49 of the major components of the FRB index. In addition, it includes 35 subgroups which are listed under 17 other components. Thus, 66 of the 175 components are represented in this survey. The 84 industries and industry subgroups account for 64.4 percent of the weighted importance of the industrial production index.

[2] U. S. Department of Labor, Bureau of Labor Statistics, *Techniques of Preparing Major BLS Statistical Series,* Bulletin No. 1168, p. 85.

1948-49 Experience

From 1948 to 1949, the Federal Reserve Board's index of industrial production declined 6.7 percent, the wholesale price index declined 5.0 percent, and the nonfarm nonfood wholesale price index fell 2.0 percent. Gross national product recorded no change from 1948 to 1949. Personal consumption expenditures increased slightly.

There were, of course, substantial differences in the dimensions of the post-1929 depression and the declines in 1949 and 1954. From 1929 to 1933 gross national product declined by 46.4 percent. Unemployment increased from an average of 1.6 million in 1929 to 12.8 million in 1933. In the post-World War II recession years of 1949 and 1954 unemployment was slightly more than 3 million. During the period from 1929 to 1933 the Federal Reserve Board's index of industrial production declined 37.3 percent, the wholesale price index 30.9 percent, and the nonfarm nonfood wholesale price index 22.3 percent. Table 1 shows the comparative data for the three periods.

The diverse patterns at work in our economy in the 1948-49 recession were reflected in the automobile and housing sectors on the one hand, and in inventory changes on the other. Automobile sales advanced from about 3.9 million units in 1948 to over 5.1 million in 1949, a rise of over 30 percent. Nonfarm housing starts increased from 931,600 units to 1,025,100, an advance of 10 percent. Both of these industries were influenced by a substantial deferred demand from the World War II period.

Table 1. Changes in Selected Economic Indicators During Three Periods of Declining Activity

Indicator	Period		
	1929-33	1948-49	1953-54
Gross national product.....	−46.4%	0.0%	−0.7%
Industrial production..	−37.3	−6.7	−6.7
Wholesale price index.......	−30.9	−5.0	+0.2
Nonfarm nonfood prices..	−22.3	−2.0	+0.4

Source: *Economic Report of the President*, January, 1957, pp. 123, 152, and 160.

The decline in economic activity in 1949 was mainly due to a shift in inventories. Inventories which had increased substantially each year since the end of the war fell from $55.6 billion in 1948 to $52.1 billion in 1949.

Prices rose for 40 groups of products during the 1948-49 recession, declined for 42 groups, and remained unchanged for 1 group. Production increased for 19 industries, was unchanged for 5, and declined for 59 industries. For the 40 groups for which prices increased, output increased in 9 industries and was unchanged in 4 others. In other words, for one industry in three with price increases, output did not decline. The 42 price declines were accompanied by 10 increases in output or fewer than one out of four.

Table 2 shows the range of changes in production for items that had similar price changes for the 1948-49 period.

Summary of 1948-49 Changes

For the eleven industries in which prices rose more than 5 percent, changes in production ranged between an increase of 31.2 percent and a de-

Table 2. Relationship Between Changes in Prices and in Production, 1948-49

Percent change in price	Number of industries	Percent change in production
+15.1 to +20.0	1	−15.7
+10.1 to +15.0	3	+ 1.0 to −11.4
+ 5.1 to +10.0	7	+31.2 to −26.7
+ 0.1 to + 5.0	29	+ 9.6 to −27.0
0	1	−18.1
− 0.1 to − 5.0	18	+33.7 to −27.6
− 5.1 to −10.0	7	+ 2.0 to −13.2
−10.1 to −15.0	9	+ 6.3 to −26.9
−15.1 to −20.0	4	+16.3 to − 5.6
−20.1 to −25.0	1	− 7.8
−40.1 to −45.0	2	− 8.7 to −11.5
−60.1 to −65.0	1	+10.0

crease of 26.7 percent. Production declined in eight of these industries, was unchanged in one, and rose in two others. Prices rose between 1.1 percent and 2.0 percent in six industries. The range of production changes was from an increase of 5.1 percent to a decrease of 23.2 percent. There were two increases in production and three declines; one industry showed no change.

In eight industries in which prices declined more than 15 percent, changes in production ranged between an increase of 16.3 percent and a decrease of 11.5 percent. For five of the eight industries, production declined and one industry had no change; in three industries the decline was relatively greater than the average decline in total industrial production.

There were nine price declines between 10.1 percent and 15.0 percent. For these industries, the changes in output ranged between an increase of 6.3 percent and a decline of 26.9 percent. For six of the nine industries, output declined despite the more than average declines in prices; for five industries the decline in production exceeded that in the total index.

There were seven price declines between 5.1 percent and 10.0 percent with an accompanying range of production changes between an increase of 2.0 percent and a decline of 13.2 percent. For five of these seven industries, output declined.

For the 29 groups which recorded increases in price of 0.1 percent to 5.0 percent, the change in production ranged from an increase of 9.6 percent to a decline of 27.0 percent.

For the 18 groups which recorded a decline in price of 0.1 percent to 5.0 percent, the changes in production ranged from a decrease of 27.6 percent to a rise of 33.7 percent.

As is clear from the data, there was little or no relationship between the changes in prices and the magnitude of changes in production. The coefficient of correlation between changes in prices and in production was −.129, only slightly larger than the standard error of .110.

1953-54 Experience

The decline in economic activity in 1954 also resulted primarily from inventory changes. As the *Economic Report of the President* stated, "An inventory recession, of the sort that occurred in 1948-49 and earlier times in our history, was under way."[3] Inventories declined from $80.3 billion in 1953 to $76.9 billion in 1954, and then in 1955 resumed their upward trend.

From 1953 to 1954, the industrial production index declined 6.7 percent,

[3] *Economic Report of the President,* January, 1955, p. 13.

Table 3. Relationship Between Changes in Prices and in Production, 1953-54

Percent change in price	Number of industries	Percent change in production
More than +5.0	6	+ 5.1 to − 7.9
+4.1 to +5.0	7	+16.7 to −21.6
+3.1 to +4.0	4	+ 8.4 to − 8.3
+2.1 to +3.0	5	− 1.6 to −34.4
+1.1 to +2.0	12	+ 6.6 to −22.3
+0.1 to +1.0	9	+ 5.8 to −26.9
0	1	− 0.8
−0.1 to −1.0	10	+ 4.2 to −22.0
−1.1 to −2.0	7	+ 4.7 to −14.7
−2.1 to −3.0	8	+13.3 to −17.4
−3.1 to −4.0	4	+ 4.0 to −13.4
−4.1 to −5.0	3	− 2.1 to −10.7
More than −5.0	6	+11.6 to −13.6

the nonfarm nonfood wholesale price index rose 0.4 percent, and the wholesale price index rose 0.2 percent. Output increased in 15 of the 43 industries for which prices rose, or in more than one out of every three cases. The 38 price declines were accompanied by only 10 increases in output, or about one industry out of four.

Table 3 shows price and production data for the period 1953-54.

Summary of 1953-54 Changes

Prices rose more than 5.0 percent for six groups of products. For the corresponding industries, changes in production ranged from an increase of 5.1 percent to a decrease of 7.9 percent. Production actually rose for two of these industries with the largest price rises.

Prices rose between 1.1 percent and 2.0 percent for twelve groups of products with accompanying changes in production ranging from an increase of 6.6 percent to a decline of 22.3 percent; production increased in four of these industries.

There were six price declines of more than 5.0 percent. For these industries the production change varied between an increase of 11.6 percent and a decline of 13.6 percent. Output increased in three industries and was unchanged in one.

Seven price declines between 1.1 percent and 2.0 percent were accompanied by changes in production ranging between an increase of 4.7 percent and a decrease of 14.7 percent.

For the nine groups for which prices increased 0.1 percent to 1.0 percent, the change in production ranged from an increase of 5.8 percent to a decrease of 26.9 percent.

For the ten industries that had a decline in price of 0.1 percent to 1.0 percent, the shift in production was between a rise of 4.2 percent and a decrease of 22.0 percent.

There was no relationship between the magnitude of changes in prices and production in the 1953-54 recession. The coefficient of correlation between changes in prices and production during the 1953-54 recession for the 82 industries was −.162, somewhat greater than the standard error of .111.

This review of the changes in prices and in production shows the same lack of relationship that was found in the studies covering the post-1929 depression.

Changes in Steel Shipments and Steel Prices

For many of the industries included in this study, a number of additional comparisons could be made for individual products if a more detailed breakdown than that contained in the

Table 4. Changes in Steel Shipments and in Prices, 1948-49

Percent increase in prices	Number of products	Percent change in shipments
3.4	1	−15.7
4.1 to 5.0	1	+ 6.6
5.1 to 6.0	3	−10.7, −15.3, −24.5
6.1 to 7.0	2	+ 5.7, −23.9
7.1 to 8.0	5	+ 3.5, − 3.8, − 7.0, −17.0, −22.8
8.1 to 9.0	4	−10.3, −16.5, −20.6, −21.1
9.1 to 10.0	2	−10.9, −13.9
10.1 to 11.0	1	−25.2
11.1 to 12.0	2	+ 1.5, −10.9
14.1 to 15.0	2	− 6.6, −27.6

Federal Reserve Board monthly index were used. This is illustrated by a study made of changes in shipments and prices in the steel industry for the 1948-49 and 1953-54 periods. The data for gross shipments and production are published by the American Iron and Steel Institute and the wholesale price data by the Bureau of Labor Statistics.

Table 4 shows the changes in shipments and prices in the 1948-49 recession for 23 steel products.

The decline of about 12 percent in total steel shipments was significantly greater than the decline of less than 7 percent in total industrial production and of 0.3 percent in total national economic activity as measured by real gross national product. The BLS index of finished steel prices rose 8.3 percent as compared with the decline of 5.0 percent in all wholesale prices. Specific price changes for steel products were accompanied by a significant variation in the changes in shipments. For example, price increases from 6.1 percent to 8.0 percent were accompanied by shipment changes ranging from an increase of 5.7 percent to a decrease of 23.9 percent. Similarly, price increases of 4.1 percent to 6.0 percent were accompanied by shipment changes ranging from an increase of 6.6 percent to a decrease of 24.5 percent.

The coefficient of correlation between changes in steel prices and shipments was −.201. No significant relationship is shown by this coefficient as it was only about equal to the standard error of .213.

Table 5 shows the relationship between changes in steel prices and steel shipments in the 1953-54 period.

The decline of more than 20 percent in total steel shipments contrasts with the moderate decline of about 2 percent in total economic activity and the decline of less than 7 percent in industrial production. From 1953 to 1954 finished steel prices rose 4.3 percent as compared with the rise of 0.2 percent for all wholesale prices. Increases in prices of 4.1 percent to 5.0 percent were accompanied by changes in shipments which ranged from an increase of 22 percent to decreases of more than 40 percent. Price increases of 6.1 percent

Table 5. Changes in Steel Shipments and in Prices, 1953-54

Percent increase in prices	Number of products	Percent change in shipments
0.1 to 1.0	1	− 0.8
1.1 to 2.0	2	+ 3.0, −14.0
2.1 to 3.0	2	−26.1, −27.0
3.1 to 4.0	1	+ 7.1
4.1 to 5.0	9	+22.0, − 9.8, −17.1, −17.2, −23.6, −28.2, −37.8, −42.5, −44.6
5.1 to 6.0	1	−22.6
6.1 to 7.0	3	− 8.0, −32.8, −42.8
7.1 to 8.0	2	−40.4, −44.6
8.1 to 9.0	2	− 6.2, −14.4

Table 6. Changes in Steel Shipments and in Prices, 1954-55

Percent increase in prices	Number of products	Percent change in shipments
1.1 to 2.0	1	−15.8
2.1 to 3.0	3	+52.4, +22.4, +18.7
3.1 to 4.0	6	+61.8, +53.6, +46.9, +40.2, +24.3, − 1.2
4.1 to 5.0	9	+58.3, +57.6, +53.3, +38.5, +38.2, +37.6, +32.2, +18.8, + 3.5
5.1 to 6.0	11	+95.1, +65.6, +59.7, +50.6, +31.1, +30.8, +21.3, +18.7, +10.5, +10.3, + 5.1
6.1 to 7.0	3	+32.3, +27.3, +22.9
7.1 to 8.0	4	+15.4, +14.4, + 4.0, −16.9
8.1 to 9.0	1	+27.8

to 7.0 percent were accompanied by declines in gross shipments of 8.0 percent to 42.8 percent. There was no predictable or constant relationship between changes in prices and changes in shipments of steel products in the 1953-54 recession.

In the 1953-54 recession the coefficient of correlation between changes in steel prices and shipments was —.271. This correlation does not indicate a meaningful relationship, since it was greater than its standard error of .213.

It is also informative to check what happened to steel prices and shipments during a period of expansion. During the 1954-55 recovery, the magnitude of increases in steel prices was similar to that during the 1953-54 recession. (The finished steel price index rose 4.3 percent in 1954 and 4.7 percent in 1955.) However, during the later period, steel shipments were rising sharply, as is shown in Table 6.

From 1954 to 1955, gross shipments fell for only 3 groups of products and increased for 35 others. One of the interesting aspects of the 1954-55 experience is the wide range of increases in shipments. In the 1954-55 recovery, there was no relationship between the magnitude of changes in steel prices and shipments. The coefficient of correlation was —.160 and the standard error .164.

The 1953-54 and 1954-55 experiences are significant because during the former period, the designated increases in steel prices were accompanied by decreases in shipments in most instances. During 1954-55, similar increases in steel prices were accompanied fairly generally by increases in steel shipments. These data suggest that the volume of sales of the steel industry is determined by factors other than prices. Unless this were true, it would be impossible to obtain the completely diverse experiences for these two periods.

This review of the experience in the 1948-49 and 1953-54 recessions and the 1954-55 recovery has revealed no relationship between the magnitude of changes in prices and in shipments of steel products. The different rates of change in steel shipments during periods of recession reflect the varying characteristics of steel products rather than price behavior. This conclusion is in accord with the findings covering the entire economy or all manufacturing industries reached in earlier studies and in the study of the 1948-49 and 1953-54 experiences presented above.

Conclusion

There is general agreement among most of the economists who have studied this problem that the differing pro-

duction behavior of various products is attributable to their economic characteristics. Emphasis has been placed particularly upon the postponable nature of demand for durable goods and producers' or capital goods. The type of good appears to play a significant role in determining the flexibility of prices, with the consumers' nondurable good tending to exhibit the greatest degree of flexibility and producers' durable goods being more often inflexible.

Although the magnitude of price change probably has some impact on sales under conditions of economic stability, during periods of recession or of sharp recovery, it is probable that other forces are much more significant in determining the level of output. These studies of the general experience in the economy and in the steel industry in recent years, as well as the earlier more comprehensive studies, provide no factual support for the generalization that declining production and rising unemployment during a recession is attributable to price behavior.

Some Planning Issues in an Underdeveloped Country

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IN COUNTRIES such as India, where economic planning has been in process for some time, innumerable practical and theoretical problems have arisen in connection with the implementation of plans for development. Most of these problems, of course, require the application of sound theoretical analysis. It was in the course of the controversy surrounding the formulation of India's second five-year plan that C. N. Vakil and P. R. Brahmanand, of the Bombay School of Economics, published one of the most comprehensive treatises dealing with the problems of India's process of capital formation.[1] In discussing the basic economic issues of India's planning, they sought to provide a general theoretical outline of the policies which would provide for rapid capital accumulation in underdeveloped but overpopulated countries. Apart from its own merits, the volume represents one of the first attempts by economists of Eastern culture to provide a comprehensive treatment of the more important theoretical problems of economic development. Thus it is an excellent point of departure for the discussion of some major issues of economic planning in underdeveloped countries.

I.

India's second five-year plan (1956-61) was formulated against the backdrop of the successes and failures of the first plan, carried out during 1951-56. In the course of the first five years, it became obvious that India was experiencing a rapid increase in "open unemployment." While disguised unemployment had long been a characteristic of the Indian economy, as in any underdeveloped area, open unemployment was a relatively new phenomenon. As more persons entered the labor force (roughly 1.5 million annually), the pull of industrialism attracted them to the cities. Land scarcity continued to represent a major obstacle to growth in the agricultural sector and provided the push to the cities, where open unemployment mushroomed.

It was said, then, that the second plan had to be employment-oriented. At the same time, it was decided that

[1] *Planning for an Expanding Economy* (Bombay: Vora and Company, 1956).

the economy also had to be strengthened by the growth of the basic heavy goods sectors — steel, machine tools, and engineering industries. However, the growth of these industries would absorb large amounts of investment capital but would give employment only to relatively small numbers since, by their very nature, they were capital-intensive. How, then, was the volume of open unemployment to be decreased? A solution to the dilemma was sought by the active promotion of the cottage and small-scale industries producing consumption goods — industries that were not only labor-intensive but also did not require the allocation of any sizable portion of India's scarce fixed capital.

This solution was first put forward by the *Plan Frame,* one of the early documents devoted to the formulation of India's second five-year plan. The basic strategy, said the *Plan Frame,* would be to increase purchasing power through investments in heavy industries and to meet the increased demand created for consumer goods by a planned increase in the output of the cottage industries producing these goods. The *Plan Frame* argued that

> the increasing purchasing power and consequently, the demand for consumer goods must be met by increases in the supply of such goods as much as possible through expansion of household and hand production. This would also quickly generate a large volume of work all over the country.

The *Plan Frame* went on to argue that until unemployment is liquidated or brought under control

> it [is] necessary to prevent competition between factories and household and hand industries by not permitting investments to be made in such consumer goods factories as would prevent expansion or lead to a shrinkage of employment in hand industries.

This strategy seemed to be satisfactory from many points of view. It appeared, simultaneously, to solve the problems of increasing employment, to prevent inflation, and to facilitate the growth of heavy industries. The encouragement of hand goods (cottage industries) was considered to be only a temporary expedient. Sometime in the future, it was argued, the hand-goods sector would be gradually modernized and made more capital-intensive.

II.

In countries like India, there are vast numbers of disguised unemployed, especially and predominantly in the rural sectors. This type of unemployment acts as a drag on the economy, of course, since even though these people do not contribute to output, they do consume. In the absence of an increase in the amount of arable land with a rise in population, the volume of disguised unemployment increases and real wages and surplus fall. The resulting decline in the surplus, output minus wage goods, can be called a Ricardian decline, since it is only when the volume of disguised unemployed is reduced and surplus increased that economic development is possible.

The phenomenon of disguised unemployment can arise only when the growth rate of investment does not keep up with the growth rate of population.[2]

[2] Dan Hamberg, "Full Capacity vs. Full Employment Growth," *Quarterly Journal of Economics,* Vol. 66 (August, 1952), pp. 444-49.

For numerous reasons, the required investment in agriculture as well as in other sectors has not materialized in India. The remedy at the present time would be to raise the rate of investment above that necessary to provide employment at the current rate of increase in population. At this point, however, two questions arise: (1) What should be the structure of future investment so as to overcome previous deficiencies? (2) What are the current limits to the growth of investment and employment?

In the short run, growth of employment and investment in underdeveloped countries is limited by the deficiency of wage goods.[3] More employment could be offered if there were a surplus of wage goods in the economy to support the newly employed. "It is ultimately out of labor power," according to some authors, "that capital equipments are created."[4]

According to this interpretation, if India had, or could produce, the necessary wage goods, some of the disguised unemployed could be transformed into productive workers to create capital. This assumes, of course, that the required natural resources and technical know-how are available and places the burden of growth upon Ricardian-type barriers.

The disguised unemployed, of course, consume a certain level of subsistence out of the economy's total wage goods. When these disguised unemployed are transferred from the agricultural surplus areas to industrial employment, there is actually a need for an increase in the amount of wage goods. It might be argued that the agricultural areas will now be more flexible and that there may be a rise in marginal productivity. It should be recognized, however, that there are two forces at work which will require a large wage fund. In the first place, those who remain in the agricultural areas will probably increase their direct consumption of wage goods, since with fewer mouths to feed, their propensity to consume will rise as the disguised unemployed (their idle relatives, in most instances) are attracted to the urban areas. The second drag on the wage-goods fund occurs because the newly employed industrial workers require a higher level of consumption to keep them returning to the disciplined labor market than was needed when they were idle appendages in the rural sector.

For these reasons, the transformation of the disguised unemployed into industrial workers requires an increase in the quantity of wage goods. This elasticity of the wage-goods sector is what Vakil and Brahmanand refer to as the "wage-goods gap." They claim (as did Ricardo) that industrial employment and capital accumulation can be increased only to the extent to which the gap can be closed. Hence,

> unemployment in underdeveloped countries is due *solely to the prevalence of the wage-goods gap.* It is the inability of the economy to provide in the short-period the required surplus of wage-goods necessary in order that the disguised unemployed can be employed in investment, that in-

[3] Cf. David Ricardo, *Principles of Political Economy* (Sraffa edition), pp. 96 and 112-13.

[4] Vakil and Brahmanand, *op. cit.*, p. 166.

hibits expansion in employment and in investment.[5] (Italics added)

And at the same time

> investment and consumption are complementary and not competitive. It is through a quick expansion of the output of wage-goods that more resources for investment purposes are obtained.[6]

The second main point made by the authors is that the output of wage goods must not only be increased quickly but must be increased by *the most efficient methods* available. It is here that they come down heavily against the philosophy of the second five-year plan. This plan, they maintain, is virtually putting a brake on development by ruling against technological change in the wage-goods sector and by actively promoting inefficient methods of production in the form of handicrafts and household industries at the expense of mechanized units.

The authors reject the notion that labor-intensive production is desirable as an economical use of the scarce factor, capital. The only test, they argue, is that of efficiency measured in terms of cost of production. It is asserted that labor-intensive methods may often be inefficient in terms of costs and that greater abundance of population cannot lead indefinitely to a lower price of labor. There is a minimum price to be paid for labor. Given the minimum, labor-intensive methods very often result in higher costs than would be entailed in capital-intensive methods, since in real terms higher costs mean that a greater volume of resources is being absorbed in the productive process. It is only by reducing that volume that more resources are made available for investment.

The solution hinges on the availability of more labor and wage goods, each of which is necessary for investment. Labor-intensive methods of producing wage or consumption goods tie up a greater volume of wage goods in that sector. It is claimed that

> Technical progress enables a reduction in the volume of employment in the consumption goods sector and thus brings about a transfer of employable units (labour plus wage-goods) towards the investment sector.

Continuing, they state that

> in the context of unemployment, technical change *raises* the rate of capital formation. It is, therefore, imprudent and highly dangerous to deny to the economy the benefits of technical progress.[7]

A significant conclusion from the argument is that even in overcrowded countries, labor, as an effective factor of production, is a scarce factor. Or to use the terminology of the authors, employable units of labor are scarce even though the population is abundant, because the wage-goods gap prevents the expansion of industrial employment. When wage goods are scarce, employable units of labor are also scarce. If the entire amount of wage goods consumed by the disguised unemployed were released for their consump-

[5] *Ibid.*, pp. xx-xxi.

[6] *Ibid.*, p. xxi.

[7] *Ibid.*, pp. xxv-xxvi.

tion when they transfer to nonagricultural employment, and if they did not then consume more than before, industrial employment would not entail an additional burden on the economy and labor would cease to be a scarce factor. This, however, is not the case in fact.

III.

There is considerable truth in these propositions favoring an investment pattern biased towards the expansion of wage goods through the adoption of efficient methods of production, but the authors seem clearly to exaggerate the case.

As pointed out earlier, the Bombay economists argue that unemployment in underdeveloped countries is "due solely to the prevalence of the wage-goods gap." However, this gap is not the sole limiting factor on the growth of most types of investment which will raise the prospects of long-term growth of employment in underdeveloped countries. The needed investments require nonlabor factors as well. One cannot overlook this by saying that "it is ultimately out of labor power that capital equipments are created." India cannot afford to concentrate on those types of investment which mainly utilize labor power and natural resources. Mechanized production of consumption goods requires considerable quantities of nonlabor resources such as steel, cement, and machinery. These resources, as well as wage goods, must be made available before investment can be concentrated on an expanding factory production of consumer goods.

The authors repeatedly argue as if the lack of wage goods alone inhibited the growth of investment. On the other hand, they admit that

> a rise in the rate of investment implies, as a corollary, a proportionate rise in the demand for various inputs that go to make up the process . . . ; among the material or non-human factors are to be included: the supplies of capital goods, tools, constructional materials, intermediate products, etc.[8]

It is not clear how this can be reconciled with their earlier statements, nor with the statement

> In other words, the unemployment in an underdeveloped economy emerges on account of a shortage of real liquid capital. This view goes counter to the view generally accepted by most of the economists of developed or underdeveloped countries that the unemployment in an underdeveloped economy is due to a deficiency in the stock of co-operating factors. This means that if only large quantities of capital equipments can be introduced into the economy, the unemployed could be absorbed without any difficulty.[9]

The shortage of wage goods is, after all, only a proximate cause of unemployment. The ultimate cause is the deficiency of investment in the past which led to this shortage. The introduction of "large quantities of capital equipments" would certainly ease the stepping up of both investment and employment. If the equipments are of different types, some of which are de-

[8] *Ibid.*, p. 294.
[9] *Ibid.*, p. 218.

signed for the production of wage goods, then certainly there is considerable aid in absorbing the unemployed.

The most controversial aspect of this thesis is the authors' plea for the adoption of the most efficient capital-intensive methods in the production of consumption goods. This recommendation goes directly counter to the philosophy of India's second plan. It rests mainly on two fundamental propositions: (1) Labor-intensive methods of production tie up a relatively large quantity of employable units in the consumption goods sector, making fewer units available for investment purposes. (2) Technological change, which implies capital-intensive methods, reduces the cost of production and releases a larger surplus for investment.

The Planning Commission argues, on the other hand, that capital-intensive methods of production tie up too large a quantity of non-labor factors. Therefore, although mechanization of the wage-goods sector would minimize the total unit cost of production, it would require concentration of capital needed to step up investment in other directions. In the concluding section of their book, the authors seem to assert that most of the investment in the initial stages of development *should* be concentrated in the sphere of wage goods. The controversy turns on the desirability of this policy from the long-term point of view. Should India import the cement and steel, build the factories, and import the machinery for the textile mills? Or should a portion of the investment required for that purpose be diverted to the production of the capital inputs of consumption goods industries? If this is not done, would it not be necessary to invest in the export industries?

Vakil and Brahmanand favor the "home production of goods at higher stages." They speak of the "possibility of embarking upon activities concerning the expansion of various types of capital goods at home, through the utilization of the new supply of employable units available in the economy."[10] This would call for a corresponding expansion in the output of various materials and intermediate products that enter into the manufacture of the capital goods.

If this program is to be relegated to the second stage, something has to be done to increase the capacity to import. Imported machinery would greatly accelerate the building up of the capital goods sector. If foreign exchange resources are used initially only for the importation of machinery for the consumption goods sector, the use of foreign exchange in growing quantities is prolonged. There is a case, therefore, for diverting part of the available exchange resources for use in the capital goods sector. A better policy would be that the available investible resources, including foreign exchange, must be judiciously distributed among the different stages of production. This may mean that the most capital-intensive methods cannot be adopted until after some development has taken place. But

[10] *Ibid.*, p. 302.

it does represent a more judicious distribution of available resources among the various stages of production.

In comparing labor-intensive and capital-intensive methods of producing wage goods, the authors compute the total cost of producing a given output by the alternative methods and point out how much more "efficient" the capital-intensive methods are. In making the comparison, should the total nominal labor costs involved be included or should only the additional actual social cost of providing a given volume of employment in the consumption goods sector be considered in each case? Professor Lewis has argued that the price mechanism does not properly reflect the social costs involved in the two alternatives.[11] The Bombay authors themselves say

> The additional commitment for the economy as a result of the increase in employment is equal to the increase in employment multiplied by the average difference between the money wage of the employed worker and the money value of the consumption of the disguised unemployed.[12]

But in the computation they carry out to support their thesis, they include the entire cost of wages to be paid. In deciding upon the methods of production to be used, the additional costs to the economy in terms of wage goods must be considered. These do not equal the total money wages paid out but the difference between that sum and the value of the consumption of that number of persons in the state of underemployment or disguised unemployment.

Further, in computing the cost of imported machinery to be used in the consumption goods sector, one is tempted to take the cost figured in rupees, by assuming the cost in dollars and the current rate of exchange. If the dollar cost were $100, then the cost in Indian currency would be 475 rupees. There is reason to believe, however, that the rupee cost underestimates the actual cost to the economy. For in the absence of exchange control, import control, and the earmarking of production for export, the external value of the rupee (in dollars) will be much lower than it is now with all the controls, thus making the cost of the equipment considerably higher.

The second argument used by Vakil and Brahmanand in support of their plan for capital-intensive methods is that the adoption of technical change (involving very often a higher ratio of capital to labor) makes a growing investible surplus available. The soundness of this argument may be readily granted. If extremely labor-intensive methods of production are adopted, production may become so inefficient that the entire additional output of consumption goods may be required to maintain the workers. Anyone familiar with the productivity of the Indian hand-loom weaver or the *khadi* producer will realize that this is a real

[11] W. A. Lewis, *The Theory of Economic Growth* (London: Allen and Unwin, 1955), pp. 140-41.

[12] Vakil and Brahmanand, *op. cit.*, p. 150.

danger. Suppose that arrangements are made for the production of various types of wage goods through labor-intensive and inefficient methods (inefficient in terms of output per worker) and that employment is provided for 10,000 persons. It is possible that the total output of the different goods produced may be just sufficient to enable these 10,000 persons to maintain the currently conventional subsistence level. Inasmuch as they have been taken off the farms, an amount of goods roughly equal to their previous consumption is the only surplus created in the process. Apart from that, there is no *surplus* of wage goods available for use in the investment sector in the next period. National income and employment will have risen but there will be no proportionate rise in savings of wage goods. Scarcity of capital cannot justify the adoption of such inefficient methods of production.

This is precisely the trouble with the second plan. It aims to raise the ratio of savings to income in the course of the plan. Whether or not there is success will depend partly on the methods used to raise income in real terms. India's second five-year plan seeks to increase the output of some important consumption goods by very inefficient methods of production. This might indeed lead to an increase in income in the form of consumption output, but out of this additional output scarcely any savings will be available.

It is a macro-economic proposition that the ratio of savings to income must be raised as income increases. India's plan assumes that this can be done. This objective can be achieved by not allowing consumption to increase proportionately as income rises. In real terms, this means that a great part of the increase in output must be in the form of resources needed for investment in the future and must be made available to the investment sector. The investment resources made available must consist of equipment, materials, skill, wage goods, and labor. The last item can be assumed to be available from the farm sector as agricultural unemployment declines with growth in the industrialized sector. Whether or not the other factors are available in the future depends on the present pattern of investment and the methods of production employed. Worthy of note are the conditions that there must be an increase in the output of wage goods and that at least part of this additional output must be made available for the investment sector. The trouble with the labor-intensive methods of production encouraged by India's second five-year plan is that the entire increase in the wage-goods output is likely to be absorbed by those engaged in producing it.

The strategy of the plan thus seems to be defective in two respects: (1) It will make it difficult to raise the ratio of savings or investment to national income. (2) It cannot succeed in preventing inflationary pressures from arising in the economy. If purchasing power is to be increased through invest-

ment, inflationary tendencies can be averted only when the increased output of wage goods is sufficient to absorb the demand of those who are employed in producing them as well as of those who are given employment in the investment sector through deficit financing.

Taxation can certainly aid in raising the ratio of investment to income. But it is effective only in the context of appropriate policy measures. As regards a given national income, taxation can be used to change its composition so that in the next period national income consists of a greater proportion of capital goods. But what of the increase in national income and its composition? Increases in national income can come about through utilization of idle factors of production, increases in productivity, and increased investment. Taxation can influence the composition of the increments in output by influencing the pattern of present investment. Once the pattern of investment is given, to that extent the composition of future output is given. Increased taxation in the context of rising incomes is a favorite recommendation of economists. But such taxation can make available for the investment sector only part of the increment in output. If the increase in the output of wage goods is brought about through inefficient methods, there is very little surplus to be diverted thus through taxation.

IV.

If there is validity in the arguments put forward in the foregoing pages, it follows that a country like India, in the present stage of development, can afford neither the most capital-intensive methods of production nor labor-intensive methods which do not generate a surplus of wage goods. This rule would certainly apply to the production of consumption goods. In agriculture, there would be no case for introducing mechanization until after disguised unemployment is liquidated. But capital investments in the form of better seeds, fertilizer, dams, and irrigation works are essential to agricultural development. In the rest of the consumption goods sector, a *via media* has to be struck. More capital than is entailed by the extremely labor-intensive inefficient methods has to be spared for the consumption goods sector. In the case of textiles, for instance, the solution may be a combination of mill spinning and power looms. In other cases, the "putting out" system can be combined with assembling at a central place. The Planning Commission of India has certainly explored such possibilities, but the commission does not seem to fully realize the danger and loss involved in expanding the production of *khadi* and hand-loom cloth by cottage industries. This is not a mere matter of emphasis, as Professor Nurkse seems to maintain.[13] The basic strategy of the plan fails to tackle the difficult problem of increasing the proportion of investible surplus to national income.

[13] Ragnar Nurkse, "Reflections on India's Developmental Plan," *Quarterly Journal of Economics,* Vol. 71 (May, 1957), p. 202.

An imbalance is likely to arise in the composition of the investible surplus which would make it difficult to raise the rate of investment without resort to increasing the amount of forced saving in the future. Besides, labor-intensive methods cannot be justified on the grounds that work has to be provided. If work must be provided, let it be done in labor-intensive capital construction projects. It is far better for the community to maintain people in productive "make-work" projects than to subsidize them in a way detrimental to rapid economic progress.

A Note on the Use of Evidence in *The Organization Man*

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IT IS COMMON in personnel circles to distinguish between *aptitude* testing (the measurement of actual or potential mental and/or motor skills) and *personality* testing (the measurement of general behavioral dispositions, attitudes, values, and so forth). Aptitude testing is held in considerably higher esteem, having proven itself repeatedly in various situations. Personality testing has progressed slowly in the personnel setting, with failure not unusual and successes tending to be minor.

William H. Whyte, Jr., in his recent best-seller *The Organization Man,* heavily attacks, among other things, the utilization of personality tests in executive selection.[1] He launches this attack with a cautious depreciation of *aptitude* testing. His aptitude testing target is the Army Air Force Aviation Psychology Program of World War II and his authority for the depreciation is Dr. Lawrence Kubie, a distinguished psychoanalyst. The purpose of this note is to suggest that Whyte's use of evidence in this instance leaves something to be desired.

Whyte writes:

> Aptitude tests have proved useful in distinguishing capabilities. Once past establishing whether a person can or cannot meet minimum requirements, however, their success is unimpressive. The Army Air Force mass testing experience furnishes perhaps the largest body of evidence available. During the war the Air Force tested hundreds of thousands of men with the standardized battery of tests known as the "Stanines." Now, by actually going back and comparing the initial prediction with how the men actually performed, we gain a rather clear idea of their usefulness. Here

[1] William H. Whyte, Jr., *The Organization Man* (New York: Simon and Schuster, 1956), pp. 171-201; for a discussion of his argument, see Stanley Stark, "Executive Personality and Psychological Testing," *Current Economic Comment,* May, 1958, pp. 15-32.

are the conclusions psychiatrist Lawrence Kubie has drawn from the comparison. . . .[2] Among Kubie's conclusions, the following are quoted by Whyte:

> . . . the vast majority of the men tested fell into the central zone of the normal curve of distribution, while only a relatively small percentage of the tested population was placed at the two extremes. With rare exceptions, the individuals who fell into the extremes knew their own aptitudes and ineptitudes before going through any tests. From their experiences at play, in sport, in school, and on various jobs, they knew already that they were specially adept or specially maladroit with respect to certain types of activity. Indeed the representatives of the two extreme ends of the scale were usually able to describe their strong and weak points almost as precisely as these could be measured.[3]

Examining Whyte's statement first, one notes an implication that comparison of test prediction with training outcome was not done until much after testing — perhaps not until the war ended, perhaps not even until shortly before the time of Kubie's writing (1953). In actual fact, comparison or validation studies began in 1942 and continued intensively through the war. Major changes in the Air-Crew Classification Test Battery (the so-called "Stanines"), stimulated by fresh validational research data, occurred in August and December, 1942, July and November, 1943, September, 1944, and June, 1945.[4]

The Classification Battery was administered only to successful aviation-cadet applicants. One of the application hurdles was the AAF Qualifying Examination, a written aptitude test to be cited again later in this paper. The Qualifying Examination, on the basis of similar continuing research, was revised sixteen times during the same period.[5]

Whyte's choice of Kubie as his sole authority on the Aviation Psychology Program is surprising. Kubie was in only indirect contact with the program in his capacity as one of many wartime consultants to the Air Surgeon's Office. While he is renowned for his teaching, writing, research, and administrative activities in the areas of neurology, psychiatry, psychoanalysis, and psychosomatic medicine, he possesses no particular reputation or professional background in personnel psychometrics.

[2] Whyte, p. 183.

[3] *Ibid.*

[4] U. S., Army Air Forces, Aviation Psychology Program, *Research Report No. 2, The Classification Program,* edited by Philip H. DuBois (Washington: U. S. Government Printing Office, 1947), pp. 71-112.

[5] U. S., Army Air Forces, Aviation Psychology Program, *Research Report No. 1, The Aviation Psychology Program in the Army Air Forces,* edited by John C. Flanagan (Washington: U. S. Government Printing Office, 1948), p. 54.

The question of Kubie's qualification for evaluating the program would be impertinent if — as Whyte's introduction might lead one to assume — he made a careful, documented study of its effectiveness. If Kubie did make such a study, however, he neither published it nor referred to it in his remarks. Actually, the Kubie quotation cited by Whyte — about a page in length — includes virtually every word Kubie wrote about the program in illustrating a vocational guidance point he made in an eighteen-page article on educational problems in the training of research scientists.[6] This secondary and somewhat incidental source could easily have been supplemented (and balanced) by material from nineteen Aviation Psychology Program research volumes published by the Government Printing Office and available probably in every university library.

Kubie's remarks drew a published reply from Lloyd Humphreys, then Director of the Personnel Research Laboratory, Lackland Air Force Base.[7] He attempted to correct Kubie's "inaccurate information and misleading generalizations."[8] Among other things, Humphreys criticized Kubie for

(1) implying that psychologists found the stanine distribution to be normal. (They *designed* it that way.)

(2) implying that the "vast majority" of cadets fell in an undifferentiated "central zone." (The percentage of training successes within *any* stanine, extreme or middle, was significantly higher than within the stanine immediately below. Humphreys' data show that 54 percent were expected to fall within the middle three stanines and 53 percent actually did.)

(3) claiming that individuals at the extreme "knew their aptitudes and ineptitudes" without benefit of the tests. (If they did, they either were not telling or were not being believed by the flight surgeons whose psychiatric interview predictions of training success were greatly inferior to Classification Battery predictions.)

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[6] Lawrence S. Kubie, "Some Unsolved Problems of the Scientific Career," *American Scientist,* Vol. 41 (October, 1953), pp. 596-613.

[7] Lloyd G. Humphreys, "The Importance of Aptitude Tests in the Selection of Air Force Personnel," *American Scientist,* Vol. 43 (January, 1955), pp. 100-5.

Dr. Humphreys is currently Professor of Psychology at the University of Illinois, where he teaches graduate courses in quantitative methods and psychological measurement. In addition, he is President of the Division of Military Psychology of the American Psychological Association and member of the following groups: Advisory Panel on Psychology of the National Science Foundation, Air Force Scientific Advisory Board, Advisory Panel on Test Selection of the University of Pittsburgh.

[8] *Ibid.,* p. 100.

To Humphreys' rebuttal of Kubie's assertion that low-scoring individuals knew their ineptitude without taking the Classification Battery (the "Stanines"), one may add evidence suggesting that such men may actually have had grounds for some confidence in their aviation aptitude. It was mentioned earlier that the Classification Battery was administered only to accepted applicants and that one condition of acceptability was success in the AAF Qualifying Examination. This examination

> was designed and constructed by the Psychological Branch for the purpose of measuring the aptitudes, skills and proficiency required for the successful completion of the air-crew training and for effective participation in combat duties. Another purpose was to select men who would make good Air Corps officers.[9]

At least a third of the items in the last revision concerned general aviation and related information.[10]

The difficulty level of this screening test may be surmised from the following: (1) of the more than one million applicants who took it during the war, almost half failed; (2) in three fairly typical state universities where various forms of the test were administered to freshmen in 1942, the failure rate was between 25 and 50 percent; and (3) on the basis of administering various forms to high school seniors around the country, it was estimated that the failure rate for the 1942 passing score (it was relaxed for a time during the war) was about 75 percent.[11]

In view of these findings, it would seem that an applicant who passed the Qualifying Examination and was sent to a classification center had at least some reason to believe he might succeed in aviation training.

Probably the most vivid demonstration of the Aviation Psychology Program's effectiveness emerged from an experiment conducted in 1943.[12] The purpose was to provide an answer to a question which, because of continuous use of aptitude tests in air-crew selection, had not previously been answerable: How would a group perform in training which had not been screened in terms of aptitude? Or, how would those applicants fare in training who ordinarily would have been rejected or accepted on the basis of the aptitude tests?

Accordingly, 1,311 applicants were admitted to pilot training *solely* on the basis of passing the physical examina-

[9] DuBois, *op. cit.*, p. 34.

[10] Flanagan, *op. cit.*, p. 55.

[11] *Ibid.*, pp. 55-56.

[12] Flanagan, *op. cit.*, pp. 78-88; DuBois, *op. cit.*, pp. 181-200.

tion for flying. Although they took the Qualifying Examination and the Classification Battery under standard conditions, the scores were ignored for selection and classification purposes. The group was typical of applicants for aviation-cadet training but atypical of all men of Army age: educational background, AGCT scores, and scores on the Qualifying Examination were notably higher than would be found, for example, in the usual group of draftees. After pilot preflight training, the men followed the usual course through primary, basic, and advanced training. No special treatment was involved. They were distributed through many classes and schools, mingling "anonymously" with trainees who had been screened in standard fashion.

Follow-up revealed that of those who would have been rejected by the Qualifying Examination, 9 percent graduated from advanced training; the corresponding figure for those who passed the examination was 28 percent. Differences in Classification Battery performance were sharper. Of 442 men with pilot stanines, or scores, ranging from one through three (the lower third of the stanine range), 4 percent graduated. In contrast, of 199 men receiving stanines of seven through nine (the three highest scores), 57 percent received their wings.

So favorably were our Allies impressed with the program's effectiveness that both the Royal Air Force and the French Air Forces adopted all available tests in 1944. Combat theater surveys revealed that commanding officers were agreeably surprised with the continuing improvement in caliber of air-crew replacements. Since the war, the Air Force has adopted the testing program for screening applicants for its Academy and Reserve Officer Training Corps.

Considering that Whyte's principal testing target in *The Organization Man* is personality testing, there is additional question as to the propriety of Kubie's serving as his only authority. Kubie's basic objection to the Classification Battery was that it did not attempt to measure "the influence of . . . conscious and unconscious emotional forces"[13] — in short, personality. Kubie makes plain his conviction that the Classification Battery needed supplementation by various depth-probing clinical procedures — procedures which Whyte anathematizes in the personnel situation.

Finally, it is ironic that Whyte omitted mention of the one Aviation Psychology Program finding he should

[13] Kubie, *op. cit.*, p. 601.

have been most interested in reporting. It is the finding which explains why Kubie found personality absent from the Classification Battery. After extensive experimentation with a wide variety of personality tests, the Program psychologists dropped them for failure to significantly predict training success.[14]

[14] U. S., Army Air Forces, Aviation Psychology Program, *Research Report No. 5, Printed Classification Tests,* edited by J. P. Guilford and J. I. Lacey (Washington: U. S. Government Printing Office, 1947), pp. 577-621, 623-71.

Books Reviewed

New Concepts in Wage Determination. By George W. Taylor and Frank C. Pierson, eds. (New York: McGraw-Hill Book Company, 1957. Pp. xiii, 336. $6.50)

The virtue of this significant volume lies not so much in the "new concepts" which it introduces as in the multi-dimensional approach to wage theory which it develops. It does not yield the long-sought general theory of wages which has proved such a frustrating challenge to both general and labor economists, but it does indicate, better than any other work with which this reviewer is familiar, the lines along which such a theory may eventually be developed. And it accomplishes this with a notable clarity of language and a minimum of technical jargon.

Sponsored by the Labor Relations Council of the University of Pennsylvania, the volume consists of eight essays by an equal number of prominent academicians who have specialized in the field of labor economics and labor relations and three essays by management and union experts. With perhaps one exception, all of the authors have struggled with wage determination issues not only at the theoretical level but also at the practical level of collective bargaining, arbitration, and government administration. As a result, the essays reflect a valuable combination of experiential insight and scholarly investigation.

The underlying theme of the volume is that

> an adequate wage theory cannot be confined to an integration of wage principles with general economic theory. Rather, the analysis must be broadened to include institutional as well as market considerations. More particularly, wage determination varies as between companies, industries, and countries, depending on differences in production and product-market conditions, on the degree to which wages as a cost are critical, on the technical conditions of production, on organizational forms and the processes of wage determination, and on the social norms and customs of the economy. In certain environments, as in France, the broader outlines of wage relationships are largely shaped by institutional circumstances, whereas in others, like the United States, these relationships are primarily the product of market forces. At the level of both the individual firm and the economy as a whole, however, institutional and market influences intertwine in complex and changing patterns which defy simplified analysis (p. xi).

In the process of elaborating this theme, the authors emphasize the numerous dimensions of the wage problems which are of contemporary interest. Pierson lists as being of major importance questions concerning the

level of wage rates in the plant, firm, industry, region, or nation and the structure of wage rates around these different levels. Within each of these areas, three key questions are asked: How do choices in the determination of wages mesh with related choices or activities of worker and employer organizations? Why do different kinds of wage relationships assume particular forms or patterns? What effects follow from changes in wage relationships? In addition, consideration is given to the traditional aspects of real versus money wages and long-run versus short-run movements.

The first of the three sections of the volume deals primarily with the approaches of the academic theoretician and of management and union representatives toward wage determination and the significance of the wage-determining process, the second with aspects of wage structure, and the third with national wage movements. Each of the sections is introduced by an essay appraising the current status of wage theory and suggesting important lines of analysis. The remaining essays of the section are intended to explore in greater detail various aspects of the broader topic.

Although the authors held a series of meetings extending over three years from 1953 to 1955 and arrived at a considerable degree of mutual understanding, complete unity could not be expected and was not achieved. Dunlop, for example, hurled another of his javelins at what he alleged was Ross's "political" theory of wages and the latter responded that such a charge reflected a misunderstanding of his emphasis on political relationships and pressures. Ross in turn found difficulty in distinguishing Dunlop's concept of the wage "contour" from his earlier concept of "orbits of equitable comparison." Neither, it may be noted, paid adequate attention to the factors explaining why employers and union leaders perceived competitive relationships the way they did and adopted specified norms. But one of the impressive features of the volume is the level of agreement which was attained.

In a short review such as this, to single out the more noteworthy contributions of the authors is to run the risk of important omissions. However, among the discussions which particularly appealed to the reviewer were (1) the emphasis placed by Hazard on management's concern in wage decisions to maintain specific producer-customer relationships; (2) Taylor's definition of bargaining power in terms of the consequences of nonagreement and his judgment that the consequences of nonagreement vary significantly among the several types of wage-determination processes — individual bargaining, management-administered wage determination, collective bargaining, and union-administered wage determination; (3) Livernash's highly refined analysis of internal plant job clusters; (4) the elaboration by both Dunlop and Ross of the external orbits of comparison or wage contours; and (5) Kerr's effort to develop a typology of union economic policies in relation to labor's share in the national income.

Because of its heavy stress on institutional factors, this volume will undoubtedly invoke a more favorable re-

sponse from labor economists than from the general economist who tends to focus principally on market forces, particularly forces of a long-run nature. This is not to suggest that market forces are neglected in the essays; throughout the volume, reference is frequently made to supply and demand factors, degrees of competition, and costs. The total effect of the volume, however, might have been enhanced by the inclusion of an additional essay in the final section analyzing in detail wage-price-employment relationships which are so important to the national economy. The introductory essay to the final section by Reynolds indicates only the broad outlines of this problem.

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The Economics of Communist Eastern Europe. By Nicolas Spulber (New York: John Wiley, and Cambridge: Technology Press of the Massachusetts Institute of Technology, 1957. Pp. xxviii, 525. $12.50)

American analysis of Eastern European developments has tended to be too exclusively of a political character. Professor Spulber's study, sponsored by the Center for International Studies at MIT, has demonstrated that this can no longer be excused by absence of economic information. The author has undertaken the formidable task of collecting and organizing in a systematic manner postwar economic data for six Communist countries of Eastern Europe: Bulgaria, Czechoslovakia, Hungary, Poland, Romania, and Yugoslavia. In both respects, his labors — and the word is used advisedly — have been unusually successful. Exploiting his familiarity with the languages, he has examined an enormous number of East European official publications as well as secondary sources, statements by officials, and other materials to assemble a hitherto unavailable economic dossier for the six countries. The conversion of these finds into meaningful facts, disclosing rates of change and comparative performance of the different countries, encounters the problems of non-comparable categories, divergent sources, incompleteness, and indeterminate accuracy. It necessitates not only special care in interpreting the sources but also some "heroic" definitions, estimates, and juxtaposing of proximate concepts. The impression created on a nonspecialist in this area is that, on the whole, this has been done judiciously, avoiding the extremes of both statistical pedantry and irresponsibility. While the author believes that recomputation is ultimately desirable "to achieve accuracy and comparability with the Western data," he has demonstrated that, as a first step, much can be gleaned from a careful tabulation and examination of the data in their raw form.

The 138 tables and 17 charts and maps in themselves represent a wealth of carefully documented information. The text contains supporting data and describes certain institutional developments, and the whole is presented in a logical frame of reference. The first section is a compact inventory of the prewar economies and of the changes wrought by war. The second describes the process of "nationalization and structural reorganization." This is done essentially by tracing the rate and man-

ner of terminating private ownership and control of economic activity in the four sectors of industry, finance, domestic and foreign trade, and agriculture. A fifth chapter describes the origin, development, and liquidation of Soviet companies and joint companies and the reparations deliveries. The third section examines the nature and accomplishments, for key sectors, of the reconstruction and first development plans. Special chapters here are devoted to manpower and management and to trade and the question of autarchy versus integration, regionally and with Soviet Russia. A brief concluding section assays an interpretation of the over-all changes in terms of national income concepts.

While available information is provided for each of the countries separately, its import is enhanced by presentation on a comparative basis (either for the region as a whole or by significant subgroups, such as ex-allied and ex-axis countries or according to quite different levels of prewar development) and in terms of a few major time periods (defined by such general transitions as from mixed economy to all-around planning in 1949). This categorization enables the author to establish significantly similar or different rates of postwar growth, rates of nationalization, turning points with respect to major emphases of planning, and other trends.

Some of the descriptive conclusions which emerge are well known, for example, the large rates of investment and its concentration in heavy industry, and the high degree of planned autarchy, especially prior to the inauguration of the second five-year plans in 1956. Others may be less familiar, such as the limited degree of collectivization of agriculture. In 1955, state farms and cooperatives in four of the countries accounted for only 24 percent to 46 percent of arable land; the figures for Yugoslavia and Bulgaria were 9 and 64 percent, respectively. Moreover, many of the cooperatives are very loose organizations and have become more so since 1953.

In some cases, the author's generalizations from the data are subject to question. The statement that "the actual outputs at the end of the first long-term plans [about 1955] for all countries except Romania were *below the ones scheduled initially for 1948-49* at the end of the reconstruction period" (p. 354, Spulber's italics) seems to be in direct contradiction to the statistics to which the author himself calls attention in this connection. These indicate that the relation was the opposite for all countries except Bulgaria (pp. 287 and 355). In the chapter on agriculture, where Spulber discusses the limitations of postwar land reforms, some interpretations are misleading. The section on Czechoslovakia, for example, concludes with the statement that

> the state ultimately appropriated for itself the relative shares previously held by the large estates and public ownerships combined, and it did *not increase at all* the total relative share of the private farmers (p. 230, Spulber's italics).

The implications of this statement are somewhat modified by the fact that 80 percent of the land retained by the state was forest land (pp. 227-29). However, here as elsewhere, the forte of this volume is systematic provision of

data, which the reader is able to interpret himself.

Beyond descriptive findings, a notion of the orders of magnitude involved frequently can contribute to analytical conclusions. The author is able to indicate, for example, that the early reparation burdens of Hungary and Romania, which in peak years amounted to 7 to 10 percent of "net material product" (i.e., excluding nonproductive services) and absorbed 15 to 45 percent of the governmental budget (pp. 178-81, 296-97), sharply restricted the mobilization of resources for investment and help explain the comparative lag of the ex-enemy countries in postwar recovery. However, in the main, economic data alone are more likely to reveal questions or clues for inquiry rather than rounded answers. This is illustrated dramatically by the Yugoslav data. The performance of the economy from 1948-49 proceeds at a significantly slower pace than that for other countries throughout the period covered, that is, to 1955 (pp. 477, 479). The figures are undoubtedly in part a reflection of the dislocations due to the break with the Cominform, and subsequently, of deliberate downward revision of plans. But it is also obviously necessary to evaluate the impact of various institutional innovations such as decentralized management and workers' councils and their possible roles in this pronounced and continued divergence. The relative importance of such factors would not emerge from the types of statistics available even if the statistics were not particularly unsatisfactory for this period. While Spulber mentions some of these innovations briefly (pp. 69-70, 158-59, 404-7), they do not fall within the primary scope of the volume, since he disavows a fundamental explanation of the Yugoslav performance (p. 365).

In other connections one has the uneasy impression that the limitations of the approach are not always recognized or observed. What is referred to as one of the major tasks of the book and the subject of Section II, "to study the structural changes in the economies of Eastern Europe" (p. xxi), is conceived of and executed largely in terms of changes in ownership — as measured by shifting proportions of enterprises, labor force, or value of output in the state, cooperative, and private sectors — and of selected other aspects of formal organization and function (especially in the case of the banking system). This view of structure for the agricultural sector, which has been quasi-feudal in some countries, virtually abstracting from matters of tenancy, debt, consolidation of holdings, and related issues, seems particularly incomplete. (The agricultural chapter suffers further from a lack of clarity as to the precise meaning of the basic category employed, the "holding.") In all sectors of an economy, changes in such structural characteristics as nonpecuniary rewards and punishments, vertical mobility, innovativeness, and type of economic leadership may have significantly differential impacts, given the form of ownership. This volume includes observations on some of these matters as well as interspersed descriptions of formal institutional arrangements mentioned earlier. However, the emphasis remains on factors most readily accessible to quantita-

tive expression. This orientation is reflected in the final summarizing section, where size and composition of national income are used "to gain an over-all view of the structural changes in the economy of Eastern Europe" on the grounds that "sequence, pace, and *ultimate objectives* of nationalization can be fully grasped only if related to national income . . . [and that] the present and prospective relationships in the [Soviet] bloc are *ultimately determined* by differences in national income, hence, by differences in the capacities for saving and capital formation, and in long-run rates of growth" (p. 469, italics mine). This becomes more than a semantic issue as to the meaning of "structure" or the scope of economics when it is a question of the broad summary and predictive statements which the author undertakes. Statements concerning the inevitability of large public sectors eliminating all private property (pp. 54, 84, 269), the impossibility of achieving a planned product-mix (p. 345), and the limitation of future rates of growth (pp. 360, 485), whatever their ultimate validity, are hardly provable by an analysis which depends primarily on quantifiable short-run data, especially for economies undergoing radical institutional change. The considerable variation in results among the countries, which Spulber tends to minimize when making these broad judgments, in itself raises doubts.

These observations are not a disparagement of the scope of this volume which, within its deliberately assumed method of approach, makes an unusually rich contribution. Viewing these broader conclusions and projections as *obiter dicta,* much perceptive analysis remains, and above all the volume contains an indispensable fund of information (containing a first-rate bibliography) for students of Communist Eastern Europe and of economic change in general.

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Philadelphia Gentlemen: The Making of a National Upper Class. By E. Digby Baltzell (Glencoe, Ill.: Free Press, 1958. Pp. ix, 440. $5.75)

This is a remarkable book. Undoubtedly, it will come to be considered a classic study of an important aspect of American society. Its value as an empirical investigation of the American upper class and its institutions should be recognized even by those who will be most critical of some of Baltzell's judgments about the role of an upper class.

A brief statement of the book's contents is provided by the author in his preface:

> This is a study of an American business aristocracy, of colonial stock and Protestant affiliations, and centered in the older metropolitan areas along the Eastern Seaboard. Although primarily a Proper Philadelphia story, with ancient roots in the city's golden age at the close of the eighteenth century, it is also an analysis of how fabulously wealthy, nineteenth-century family founders, in Boston, New York, and Philadelphia, supported various exclusive institutions which produced, in the course of the twentieth century, a national, upper-class way of life (p. v).

In his introduction Baltzell states that

> It is not our intention to attack the evils of hereditary wealth and the long-established family traditions in Philadelphia . . .

> While assuming the desirability of estab-lished institutions which create an upper class consciousness-of-kind and more or less primary group solidarity, we shall never-theless often refer to the abuses of privilege and the all too human frailties which in-evitably prevent the proper functioning of such institutions (p. 5).

On the other hand, for those who may be surprised and disturbed by his documentation of the existence of a national ruling class, Baltzell offers that assuagement of national conscience which has become standard in discussions of American problems, whether they have to do with juvenile delinquency, slum conditions, "rock and roll," or unemployment — "after all, things are not going so well in the Soviet Union either." In this case, it takes the form of an assurance from Barrington Moore, Jr., that there are forces at work in that country which "will eventually result in the emergence of a class system resembling in many ways that in the United States . . ." (p. 7).

The basic materials used by Baltzell in his analysis of the contemporary scene were obtained from *Who's Who in America* and the Philadelphia *Social Register*. The *Dictionary of American Biography* provided the bulk of the historical information. These were supplemented by an impressive array of other source material. *Who's Who* and the *DAB* serve as an index of membership in what Baltzell calls an *elite*. This term "refers to those *individuals* who are the most successful and stand at the top of the *functional class* hierarchy" (p. 6). The *Social Register* serves as his index of membership in the *upper class*. The latter term "refers to a group of *families*, whose members are descendants of successful individuals (elite members) of one, two, three or more generations ago. These families are at the top of the *social class* hierarchy . . ." (p. 7). It should be added that membership in the upper class is acquired only if the successful individuals from whom the families are descended were successful at making money and the wealth has been preserved. Most members of the "elite," as Baltzell defines this concept, have not accumulated fortunes, but "inherited wealth is almost an indispensable aspect of upper-class position . . ." (p. 57). "Inherited wealth is always and everywhere the basis of gentility" (p. 18), a point that might have led him to think twice about the prediction by Mr. Moore which he quoted approvingly.

By many different comparisons of the number and percentage of those "elite" Philadelphians who in 1940 were listed in the Philadelphia *Social Register* with those who were not, Baltzell demonstrates the role of old "elite" family origins, residential neighborhoods, religious affiliation, educational institutions, social clubs, and business directorships in maintaining the exclusive upper-class way of life. Chapters on the pre-Civil War and post-Civil War founders of upper-class Philadelphia families establish the primacy of industrial and mercantile sources of the wealth that was the *sine qua non* of their position; other chapters indicate the preference of the descendants for banking and legal careers, in conjunction with directorships in prestige corporations. There is a wealth of material here which should prove most interesting to

economic historians as well as to sociologists.

On the whole Baltzell expresses admiration for his Philadelphia Gentlemen. His major criticism — too few of them have become great statesmen in modern times — reflects his concern that they may lose their function: "In the last analysis, power over other people is the indispensable mark of high social status, and the primary function of an upper class is the exercise of power" (p. 60). In his judgment, political leaders are rapidly becoming the most powerful and important members of the "elite." However, he cites reasons for thinking that the American business aristocracy will take steps necessary to maintain power. The only other important criticism he makes is directed at the reluctance of the upper class to admit to full status "those families with minority ethnic and religious affiliations" (p. 396) that have otherwise qualified. Only one Jew — the fashionable physician-father of sociologist David Riesman—was listed in the 1940 *Social Register,* despite the existence of a number of old "elite" Philadelphia Jewish families.

It is with Baltzell's *obiter dicta* on the inevitability and the desirability of a hereditary ruling class that this reviewer would take issue. Baltzell asserts that

> Leadership and some form of stratification are inherent in all human social organization . . . Only in the delightful land of *Oz* are there more generals than privates, and surely Alice might have found a "classless society," like un-wet water, only in Wonderland (p. 3).

It may be granted that leadership is inherent in all human social organization, but by no means self-evident is the proposition that leadership is inevitably associated with hereditary social stratification. Many human groups have placed responsibility for leadership in the hands of individuals for particular occasions and for strictly limited periods.

Baltzell complains that

> Although scientific realism is deified in our time, modern social theory, from Rousseau through Marx to the present, betrays, nevertheless, a utopian tendency to measure the good society, often equated with democracy, in terms of such sociological monstrosities as "majority leadership" or the "classless society" (p. 3).

Arguing that oligarchy and democracy are false alternatives, he contends that

> A less utopian, more empirical test of democracy is whether the inevitable "minority of leaders," or oligarchy, is both *accountable* to the rest of the population and drawn from *all social levels* and not solely from the ranks of a few privileged families (p. 4).

But at another point, we are told that

> Leadership, and the exercise and retention of power within a small and hereditary social group of families, is the ultimate end and justification for an upper-class way of life (p. 10).

Furthermore,

> too much social mobility, especially at the elite level, perhaps may weaken the traditional means of checking the power of leaders. If power and authority are the bricks and mortar of all social structures, an upper class, based on inherited wealth and position is but the organic institutionalization of power and authority within the traditional circle of privileged families (p. 4).

Expressing concern with "the problem of the accountability of power in an atomistic mass society," Baltzell argues that "perhaps an hereditary upper class may prove to be a more effective

mediating group in institutionalizing the *accountability* of authority" than "cafe society" or modern dictatorships (p. 4). But it is certainly a distortion of history to state that "The modern totalitarian dictatorship . . . must always obliterate the existing upper class before proceeding to appropriate all available power to the community" (pp. 62-63), unless the word "modern" is meant to exclude the Nazi and Fascist dictatorships which invented the adjective "totalitarian." In these regimes, the existing upper class was not "obliterated"; in fact, it played a decisive role in the emergence and maintenance of these dictatorships and survived to carry on under other forms of government. One must be careful to look in one direction only to conclude that

> The lesson of history, then, is the fact that a strong and autonomous upper class (an intermediate power group) is one of the important bulwarks of freedom against an all-inclusive totalitarian power (p. 63).

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Automation and Management. By James R. Bright (Boston: Harvard University, Graduate School of Business Administration, Division of Research, 1958. Pp. xv, 270. $10.00)

This book focuses on the experiences of those firms which have installed automation and analyzes what these experiences have meant to a central group, the management of the company. By analyzing the actual experiences of management with automation, it fills a major gap in the literature on automation.

Basically the intent is

(1) To explain automation and to put it into proper focus relevant to over-all industrial development.

(2) To determine why managements have decided to adopt automation, and to find out if the expected benefits are realized.

(3) To explore the impact of automation on the firm, that is, the changes it has caused or should have caused.

(4) To determine how automation changes or affects the job of management.

In essence, the author concludes that automation is not a radically new method of manufacturing. It is, instead, a continuation of what has been a steady development in the use of machinery in manufacturing. In short, automation is the latest, most advanced development of mechanization in industry.

To substantiate this point of view the author presents a history of machinery in manufacturing. He carefully analyzes the development of modern factories as more and more machines have been linked together or integrated and as new machines or processes have been developed to accomplish tasks previously performed by men. If we conceive, as the author does, of the factory as a large complicated machine, then the automatic factory becomes the end point in the development. However, if automation is a stage of development of the machinery in a given firm or industry, then it appears possible to construct a scale with which the degree of automation of a firm, or an industry, can be measured and comparisons made. This the author does.

From an analysis of the development of the manufacturing of electric lamps

and of shoes the author develops a Mechanization Profile with seventeen levels. By plotting the mechanization level for each step in a manufacturing cycle it is possible to get a graphic pattern which shows not only the total amount of mechanization in a factory but also where mechanization is greatest. This conceptual tool should be of considerable assistance to other investigators in the field of mechanization and to engineers and managers who want some means of comparing the degree of mechanization of one plant or company with another.

The author devotes a sizable portion of the book to a careful analysis of the automation experiences of the firms in his study. Automation in a plant is apparently developed along one of two main lines. The first is a gradual approach where individual machines are gradually made more refined, more automatic, until two can be combined into a single integrated automatic machine. As this process is carried on throughout the plant, with two or more machines being combined, "islands" of automation gradually develop and gradually become larger and larger. The other is the integrated approach, where a continuous flow design is conceived for the entire manufacturing process, as in oil refining.

Analyzing the thirteen firms in the study, Bright found that they had some surprisingly similar experiences. Almost all companies experienced increases in their productivity and improvements in the quality of their products. Somewhat less commonly, material costs were lower, safety better, housekeeping simplified, production control simpler, and unexpectedly, sometimes inves ment costs were lower and maintenanc was simpler. These last two points ar interesting because they are usually pre dicted as factors which are sure to b increased with automation. The de crease in these two factors was found i only a small minority of the cases stud ied, but they are among the most ad vanced. Whether this tantalizing tend ency will be borne out by other studie will be interesting to see.

Automation poses many problems fo management. Without doubt, the los of flexibility of product is a major one This means that management must in vestigate and plan carefully before th decision to automate is made, for onc such a decision is made and put int effect, it will be exceedingly difficult, i not impossible, to change. These ar decisions that management will be un able to delegate to engineers or plan managers. They will be decisions tha will require, as the author concludes that the managers enter into the posi tion of machine designers, for they ar the only persons with the perspective o the whole business who are in a posi tion to establish the broad design cri teria necessary.

Although maintenance may becom simpler, it will do so only when it i carefully planned with a major empha sis on standardization and accessibility Procurement becomes a more crucia area, with adherence to specificatio and shorter delivery schedules becomin a vital necessity. The level of sales als becomes an important consideratio On the one hand, delivery cycles an quality will be improved; on the othe hand, the ability to change designs c

product lines will be greatly diminished. Therefore, once an automatic process is set up and committed to a product design, and the necessary investment made, the sales department must produce the necessary volume of orders for a specific product to keep the firm from drowning in its own high fixed costs.

The impact of automation on the work force, which has received a great deal of attention from other quarters, is found in this study to be fairly complex. It was found that frequently the total employment of a plant would increase as the degree of automation was increased. It is often predicted that automation will increase the necessary educational level of those working in the plant and force the unskilled out of work. In some cases, the study found this to be true; in others, is found just the opposite to be true. Bright hypothesizes that the skill level required of the operator increases as the level of mechanization rises, but then drops off suddenly when a high stage of automation is reached. Although there is not a clear picture of the impact of automation on labor, there is nothing to indicate that it poses any immediate threat of mass unemployment or of freezing out the unskilled worker.

Automation and Management will interest a considerable range of people. Certain parts will be useful to the student of production, the factory system, and management. Other parts will be of greater interest to the engineers and managers working with, or contemplating working with, automation.

For the most part it is written in a clear style, and the text is skillfully supplemented with drawings and photographs. One possible drawback is the large page size (8½ by 11 inches), which makes a rather awkward-sized book to handle; and the price of $10 may unbalance a few budgets. However, for those interested in this subject, from either the academic or the practicing level, these rather small disadvantages will be greatly outweighed by the other important values of the book.

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Financing Highways. A Symposium. (Princeton: Tax Institute, 1957. Pp. vi, 217. $5.00)

Growing highway congestion, the rise of the toll roads, and the enactment of the Federal Aid Highway Act of 1956 have redirected attention to problems of highway finance which two decades ago appeared to be nearing solution. But the interest in popular and governmental circles has not been matched by equivalent work at research or academic levels. Apart from a few key articles by Buchanan, Netzer, Brownlee and Heller, and others, and the work of study commissions in various states, the literature is very meager. Thus this symposium volume is of considerable interest. The papers comprising the volume were presented at a conference sponsored by the Tax Institute in 1956 following the enactment of the Federal highway legislation of that year. They were oriented toward the question of the impact of the new Federal program and the problems which it leaves unsolved.

As is commonly the case with conference symposia, the papers are very uneven in quality, with much repetition

of the obvious. Even several of the better papers do little more than restate well-known positions of the authors. Some, such as those of Owen, Herring, Fitch, and Ross, do maintain a high level of analysis, and others point to interesting problems. But some sink to the level of special pleading and statements such as "highway users, who are practical folk" (p. 35).

Owen's introductory paper stresses the need for considering highway development in the context of community planning, rather than in isolation; the Newcomb paper, by contrast, presents the familiar "absolute need" criterion for highway development. Lutz of Cornell stresses the importance of the new Federal program in ending the argument for return of highway user taxes to exclusive state use; others express regret for this change. There is no careful analysis of the relative roles of the various levels of government. Bane, Moore, and Bird emphasize the problems created for the states by the new program — the need for spending more, not less; the need for reorganization of state highway work; and the need for greater flexibility in state borrowing.

Several papers deal with the toughest highway nut to crack — the urban problem. Herring, of the New York Port Authority, points up the problem and the need for aid to mass transit, while Lyle Fitch redevelops the neglected thesis of the need for and techniques of restricting the demand for street space in urban areas in preference to policies of attempting to provide more space or wholesale subsidies to mass transport. W. D. Ross offers a novel thesis (which by 1958 he may be reconsidering), namely, that a permanent increase in the propensity to consume has eliminated the danger of depression, thus increasing the justification for consumer levies (which presumably check inflation) and destroying the argument that highway construction should be postponed until depression periods.

The toll road question receives only a brief and reluctant burial by Wedeking. In contrast to the Butler diatribe against third structure (weight-mileage) taxes, Bowers explains and justifies both the taxes and the reciprocity treatment of them. One of the most interesting statements in the book is not in a paper but in the remarks in the discussion by Roger Freeman about the curious paradox of the willingness of persons to spend large sums on new cars but not on the building of suitable roads, which the taxpayer cannot take home (p. 99).

Symposia of this type, in themselves have great merit, which unfortunately does not carry over into a published volume of the papers. The money for the latter might more profitably be spent on preparation of a high-level analysis of the problem discussed.

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Some Applications of Behavioural Research. Edited by Rensis Likert and Samuel P. Hayes, Jr. (Paris: United Nations Educational, Scientific and Cultural Organization, 1957. Pp. 333. $3.25)

This book, the second in the *Science and Society* series which UNESCO i

sponsoring in order to spread "knowledge of the practical effects of the discoveries made in the various branches of the social sciences," is a collection of reports dealing with social behavior, as defined by psychology, sociology, and anthropology. It thus complements its predecessor, *Economics and Action,* by Pierre Mendès-France and Gabriel Ardant, which focuses on economic policy and techniques, but the material also concerns the operation of economic institutions, such as business organizations and commodity markets.

The reports are based mainly on conferences, research projects, and publications supported by the Foundation for Research on Human Behavior, which was established in 1952 at Ann Arbor, Michigan, to assist research on human behavior within organizations, facilitate communications between researcher and practitioner, and promote practical applications of research findings. Mr. Hayes serves as director of the foundation. The opening chapter, by Likert, and the closing chapter, by Hayes, explore the need for behavioral research and point up areas of fruitful application. Likert gives special emphasis to the survey techniques developed at the Michigan Survey Research Center, illustrating their usefulness for decision-making in such areas as consumer finances, Forest Service administration, and political polling. Of practical interest are his suggestions for organizing research, obtaining researcher-clientele cooperation, and applying and appraising research results. Hayes explains why organizations have failed to exploit behavioral research and why social scientists have not been successful in obtaining cooperation—all of which leads to a discussion of how the foundation functions to bring the two groups together.

Substantive research areas are dealt with in the intervening six chapters. Essentially, two topics are covered: training for administrative leadership and predicting human behavior in the economy. Stanley E. Seashore is the author of one report on the relationship between administrative leadership and organizational effectiveness and another on supervisory training in industry. For the first, he assembles the Michigan findings on supervision and productivity and relates the progress of a management conference in using force analysis for an actual case. In the second, he examines experiences in three different types of leadership programs carried on with research evaluation (International Harvester, Procter and Gamble, Detroit Edison) and outlines a proposal for a fourth type, a "laboratory" human relations program. Hollis W. Peter reports on research administration, drawing upon the work of the Educational Testing Service concerning engineers, of the Survey Research Center relating to physiologists and government medical researchers, and of MIT pertaining to industrial laboratories. Brought together here are the findings relating social factors (such as age, personnel administration, and communications) to creativity. In another chapter, Peter and Simon O. Lesser summarize research recently conducted regarding the training of foreign nationals in the United States. They analyze both the learning

process for these groups (mainly Germans and Japanese) and trainee adjustment upon returning home.

For the prediction problem, Francis S. Bourne writes principally on methods for analyzing reactions to marketing and public relations programs, especially in applying psychological reference-group theory in these fields. Probably more than the other writers, he clearly presents the underlying analytical framework. Irving Morrissett offers a highly useful summary of attitude surveys which have been used for business forecasting, first covering the Dun and Bradstreet, McGraw-Hill, and Department of Commerce-SEC survey work and then concentrating on the Survey Research Center's reports to the Federal Reserve Board on consumer finances.

This volume meets an acute need for bringing together applied work that has gone forward over the last decade in behavioral research. The main shortcoming is that too much is claimed at this juncture. One can agree with Hayes that "with the research undertaken thus far we have only scratched the surface" (p. 316). But it is doubtful that one can go along with Likert's assertion that "research methods and techniques now in use can deal effectively with most of the problems in human behavior" (p. 12). The shortcoming appears to derive from theoretical foundations which are still incomplete and which receive but scanty development in this book. Underlying conflicts in human value systems seem to be assumed away, thus giving the research reported on a manipulative quality. The presentations are also belabored and wordy, with space needlessly devoted to the foundation's conference proceedings. Each chapter provides a well-annotated bibliography for reference to the detailed research.

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BUREAU OF ECONOMIC AND BUSINESS RESEARCH

The Bureau of Economic and Business Research, established in 1921, is the research department of the College of Commerce and Business Administration. Economic and business information, including material on tested business practices, is compiled by the Bureau and made available to Illinois businessmen and others interested in business and related problems. Although the major part of its work deals especially with Illinois, the Bureau also engages in general economic research.

Fields in which research is carried on include: accounting; marketing; retail and wholesale trade; resources and industries; transportation, utilities, and communications; banking and private finance; public finance, governmental regulation, and public policy; international trade and finance; labor, public relations, and welfare; and general economic developments.

The results of Bureau investigations are published in the form of research bulletins, business studies, and miscellaneous special bulletins. The following titles illustrate the scope of the Bureau's publications.

Bulletin 81, *British and American Manufacturing Productivity,* by MARVIN FRANKEL. ($1.50)

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